Comtrol
WWW.COMTROL.CO.UK

Satyrn View VERSION 3.0

POWERFUL NETWORK MANAGEMENT SUITE

IMPRESSIVE UTILITIES

- **Satyrn Explorer**
  Centralised management of all the switches in the network
- **Satyrn Supervisor**
  Monitor the status of all switches
- **Satyrn Topology**
  View the layout of the switches geographically and logically
- **Satyrn Early Warning**
  Receive warnings by e-mail if there is a malfunction or failure

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Table of Contents

1 GETTING TO KNOW SATYRN VIEW 1

1.1 About Satyrn View 3.0 1
1.2 Install Java machine 1
1.3 System requirements 1
1.3.1 Minimum System Requirements 1
1.3.2 Supported Network Protocols 1
1.3.3 Operating Systems 2
1.4 Installing Satyrn View 2

2 USING SATYRN EXPLORER TO MANAGE NETWORK SWITCHES 2

2.1 Starting Satyrn Explorer 2
2.2 Confirm Network Connection 2
2.3 Locating devices 3
2.3.1 Devices in the same broadcast domain 3
2.3.2 Devices in a different broadcast domain 4

3 THE SATYRN EXPLORER INTERFACE 5

3.1 System Bar 5
3.1.1 Task Menu 5
3.1.1.1 Discovery (Ctrl+D) 6
3.1.1.2 Discovery Filter (Ctrl+F) 6
3.1.1.3 Login (Ctrl +L) 8
3.1.1.4 Logout 9
3.1.1.5 Reboot (Ctrl+B) 9
3.1.1.6 Open Web (Ctrl+W) 9
3.1.1.7 Refresh 9
3.1.1.8 Refresh All 9
3.1.2 Settings 9
3.1.2.1 Load Device (Ctrl+O) 10
3.1.2.2 Save Device (Ctrl+S) 10
3.1.2.3 Save Default Device (Ctrl+A) 10
3.1.2.4 System Config 10
3.1.3 Help 11
3.2 Function Bar 11
3.3 Switch Management Interface 11
3.3.1 Devices 11
3.3.2 Status Monitor 12
3.3.3 Scan Devices Configuration 13
3.3.4 Syslog Events 14
3.3.5 Wizards 15
3.3.5.1 Group IP Setting Wizard 15
3.3.5.2 Group Firmware Update Wizard 16
3.3.5.3 Group Satyrn Ring Setting Wizard 18
3.4 Switch Function Interface 19
3.4.1 System Login 19
3.4.2 The function interface and the configuration interfaces 20
3.4.3 Basic settings 21
3.4.3.1 Switch Setting 21
3.4.3.2 Admin Password 22
3.4.3.3 IP Setting 22
3.4.3.4 SNTP Configuration 24
3.4.3.5 LLDP 26
3.4.3.6 Auto Provision 26

3.4.3.7 Backup & Restore 27
3.4.3.8 Upgrade Firmware 28
3.4.3.9 Factory Default 29
3.4.3.10 System Reboot 29
3.4.4 DHCP Server 29
3.4.4.1 Setting 29
3.4.4.2 Client List 30
3.4.4.3 Port and IP binding 30
3.4.5 Port Setting 31
3.4.5.1 Port Control 31
3.4.5.2 Port Status 32
3.4.5.3 Rate Limit 32
3.4.5.4 Port Trunk 33
3.4.6 Redundancy 34
3.4.6.1 Satyrn-Ring 34
3.4.6.2 Satyrn-Open 35
3.4.6.3 Satyrn Link 36
3.4.6.4 Satyrn-RSTP 37
3.4.6.5 RSTP 38
3.4.6.6 MSTP 40
3.4.7 VLAN 45
3.4.7.1 VLAN Setting 45
3.4.7.2 VLAN Setting – Port Based 47
3.4.7.3 VLAN Table 48
3.4.8 SNMP Configuration 48
3.4.8.1 Agent Setting 49
3.4.8.2 SNMP – Trap Setting 50
3.4.8.3 SNMPv3 Setting 51
3.4.9 Traffic Prioritisation 53
3.4.9.1 Traffic Prioritisation Policy 53
3.4.9.2 Port Based Priority 54
3.4.9.3 COS Based Priority 55
3.4.9.4 TOS based Priority 55
3.4.10 Multicast 56
3.4.10.1 IGMP Snooping 56
3.4.10.2 Multicast VLAN Registration 57
3.4.10.3 Multicast Filter 58
3.4.11 Security 59
3.4.11.1 IP Security 59
3.4.11.2 Port Security 60
3.4.11.3 MAC Blacklist 61
3.4.11.4 802.1x 62
3.4.12 Warning 65
3.4.12.1 Fault Alarm 65
3.4.12.2 Event Selection 65
3.4.12.3 SYSLOG Setting 66
3.4.12.4 System Event Log 67
3.4.12.5 SMTP Setting 68
3.4.13 Monitoring and Diagnostics 69
3.4.13.1 MAC Address Table 69
3.4.13.2 Port Statistics 70
3.4.13.3 Port Monitoring 71
3.4.13.4 Ping 71
3.4.14 Save Configuration 72
4 SATYRN TOPOLOGY 73
4.1 About Satyrn Topology 73
4.2 Starting Satyrn Topology 73
4.3 Satyrn Topology Main Interface 74
4.3.1 System Bar 75
4.3.1.1 File 75
4.3.1.2 Edit 76

4.3.1.3 Tool 80
4.3.1.4 View 80
4.3.1.5 Layout 81
4.3.1.6 Management 82
4.3.1.7 Context Menu 85
4.3.1.8 Help 88
4.3.2 Function Bar 88
4.3.3 Device Tree 89
4.3.4 Group Tree 91
4.3.5 Topology Area 93
4.3.5.1 Display Network Topology 93
4.3.5.2 Transform 93
4.3.5.3 Pick 93
4.3.5.4 Group View 94
4.3.6 System Log Area 96
5 SATYRN SUPERVISOR 96
5.1 System ToolBar 97
5.1.1 File 97
5.1.1.1 New (Ctrl + N) 97
5.1.2 View 98
5.1.3 Help-About 98
5.1.4 Function ToolBar 99
5.1.4.1 New (Ctrl + N) 99
5.1.4.2 Add 100
5.1.4.3 Delete 100
5.2 Devices Tree 100
5.2.1 Add 100
5.2.2 Delete 102
5.2.3 Edit 103
5.3 Monitor Window 103

1 Getting to Know Satyrn View

1.1 About Satyrn View 3.0

Satyrn View 3.0 is a powerful network management suite from Comtrol GmbH. Satyrn View consists of three utilities: Satyrn Explorer, Satyrn Supervisor and Satyrn Topology. Among its features includes the ability to manage all of the switches connected to the network and simultaneously configure switch settings for multiple switches across the network.

Satyrn View is not only useful for configuring switches, but for monitoring them as well. Switch status can be monitored with the Host Monitor application. If a monitored switch fails at some point, alarm messages will be sent and information related to the failure will be displayed in the Host Monitor interface.

The fully functioning free version of Satyrn View is restricted for use with up to 10 devices in the network for Satyrn Supervisor and Satyrn Topology. Further devices can be added via a licence agreement and a USB dongle. Contact Sales at Comtrol GmbH for further information.

1.2 Install Java machine

Satyrn View requires the Java Runtime Environment 6 Update 3 or above. If JRE 6.3 is not installed on your computer, please download the current JRE free of charge from Oracle: http://java.sun.com/javase/downloads/index.jsp

1.3 System requirements

1.3.1 Minimum System Requirements

- Pentium IV CPU or better (2.0 MHZ minimum)
- VGA monitor with 1024 x 768 resolution or better
- WINDOWS NT,2K ,2K3, XP, Vista, or 7
- 512 MB RAM (1 GB recommended)
- Java 2 Runtime Environment version 1.5
- Internet Explorer 6.0 or higher

1.3.2 Supported Network Protocols

- TCP / IP
- UDP
- SNMP

1.3.3 Operating Systems

Windows

- NT
- 2000
- 2003
- XP
- Vista
- Windows 7

1.4 Installing Satyrn View

Double click SatyrnView.exe from the appropriate page on the Product CD or download from www.comtrol.co.uk to begin the install process.

After SatyrnView.exe is launched, Windows will begin to install Satyrn View via the InstallShield Wizard.

Step 1 – InstallShield will extract the files from the .msi file

Step 2 – Click next to continue the installation process

Step 3 – The Satyrn View files will normally load into C:\Program Files\Satyrn-View\ You can change the directory for these files at this point

Step 4 – If all is correct click next to proceed with the installation

Step 5 – Click Install to install the program

Step 6 – When the installation is complete, click Finish

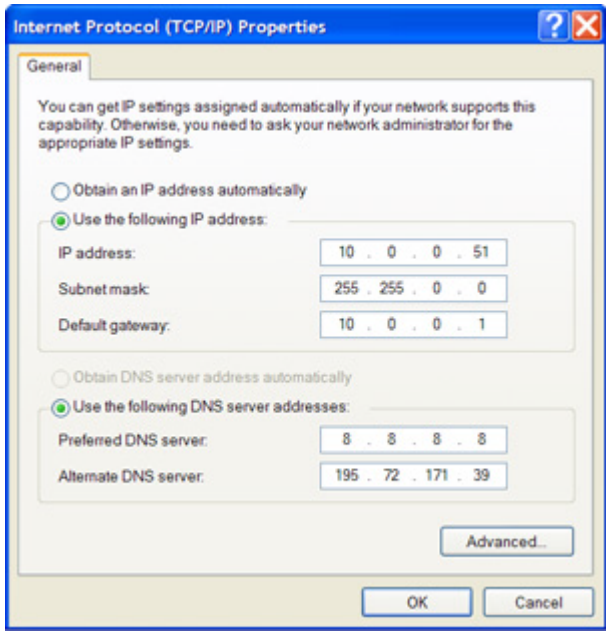
2 Using Satyrn Explorer to manage network switches

2.1 Starting Satyrn Explorer

Select **Start > All Programs > Satyrn View > Satyrn Explorer** to launch Satyrn Explorer.

2.2 Confirm Network Connection

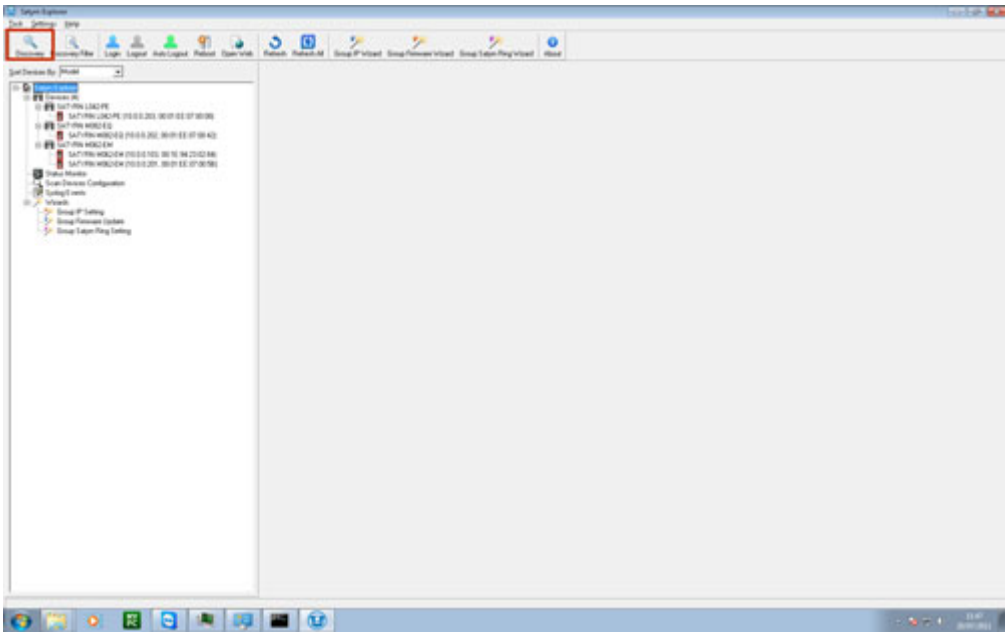
Begin by checking the configuration of the PC's IP address, subnet mask, and default gateway. Confirm that the PC is connected to the default gateway as well as the switches you wish to manage.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 10 . 0 . 0 . 51
Subnet mask: 255 . 255 . 0 . 0
Default gateway: 10 . 0 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 8 . 8 . 8 . 8
Alternate DNS server: 195 . 72 . 171 . 39
Advanced...
OK
Cancel

2.3 Locating devices

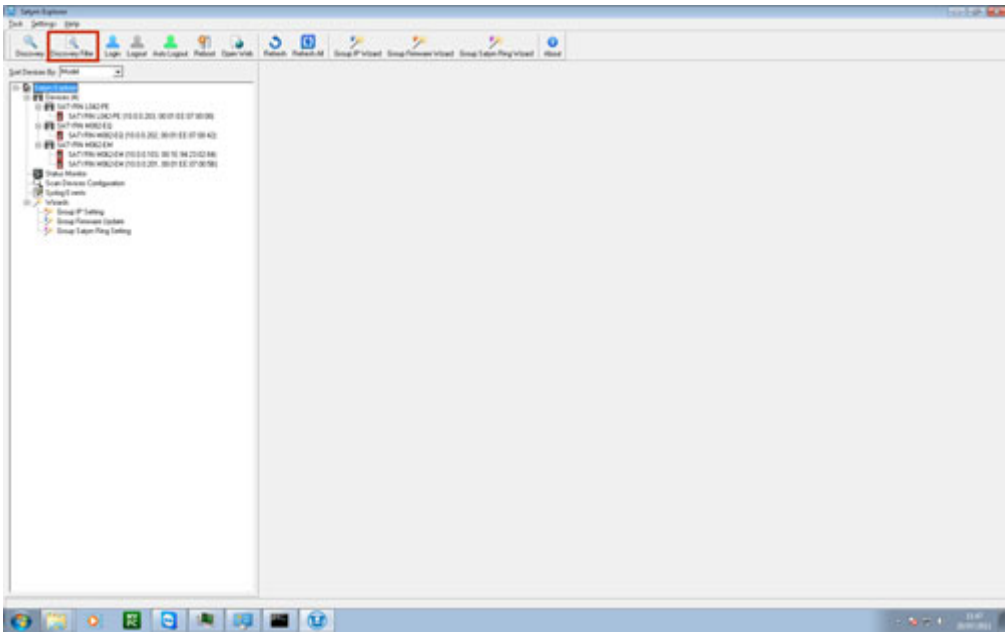
2.3.1 Devices in the same broadcast domain

When the PC and the connected switches are located in the same broadcast domain, click the **Discovery** icon to look for the switches. The located switches will appear in the left hand panel.



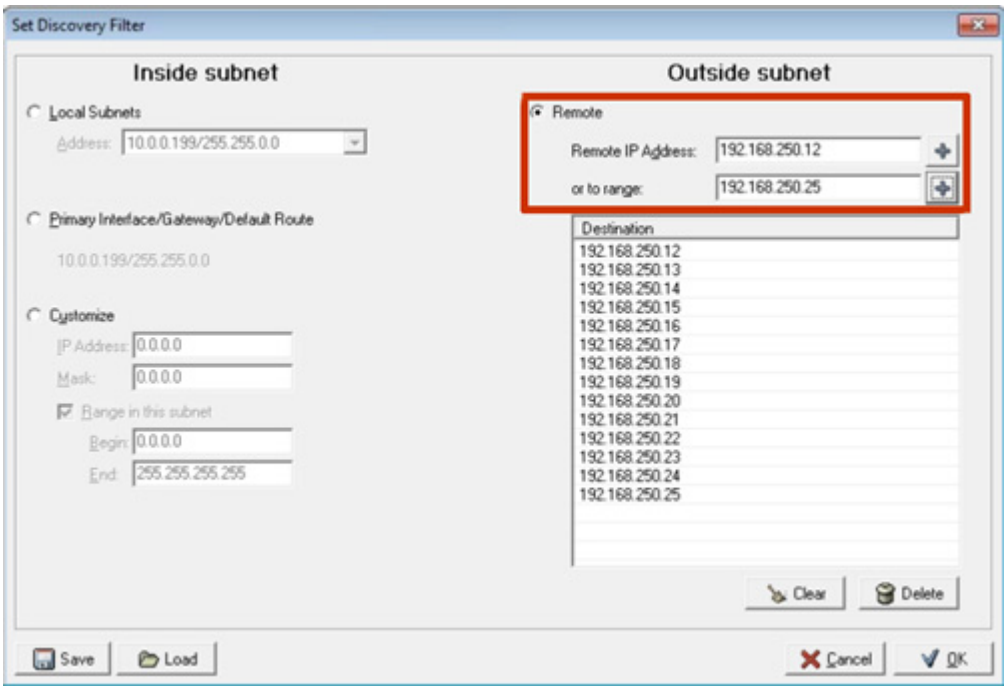
2.3.2 Devices in a different broadcast domain

If the PC and the switches it is managing are located in different broadcast domain, then use of the advanced search function will be required in order to find the switches.



Click on the Discovery Filter Icon.

The Set Discovery Filter window will appear.

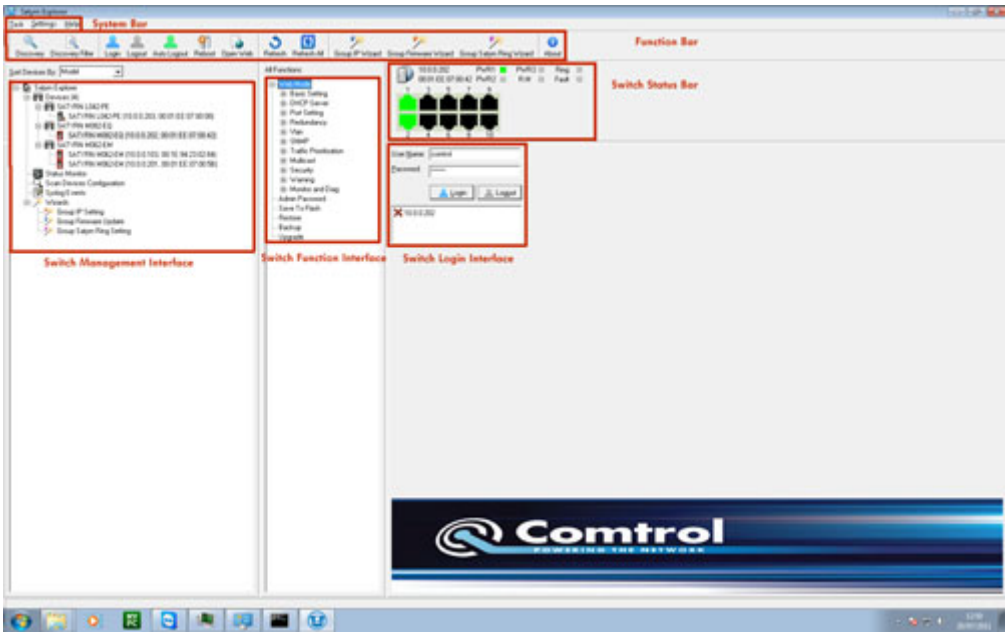


Select Remote and then add the switch IP address you wish to find in the upper box and click the upper (+) button. The IP address will be added automatically in the large field below. To search a range of IP addresses, enter the low end of the range in the upper box and the high end of the range in the lower box. Then click on the lower (+) button to add the IP addresses to the search field. Click OK to begin the search.

3 The Satyrn Explorer Interface

The main interface for Satyrn Explorer includes the following elements:

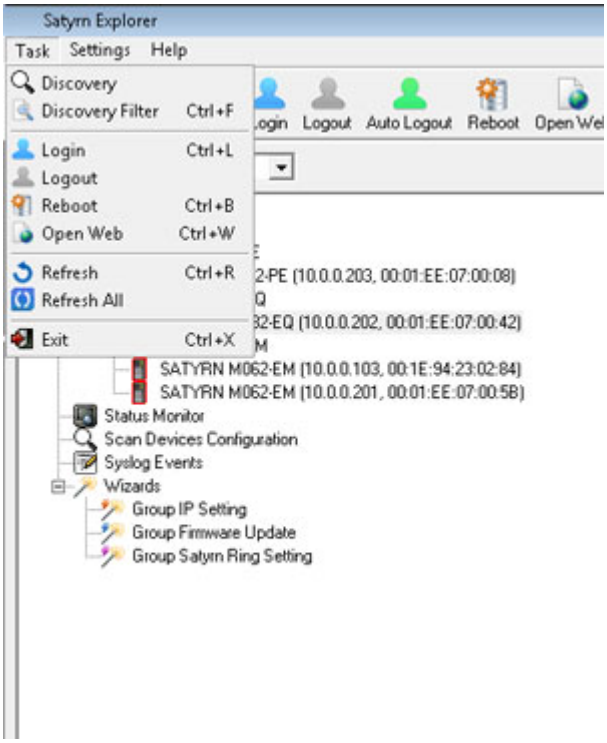
- System Bar
- Function Bar
- Switch Management Interface
- Switch Function Interface
- Switch Status Interface
- Switch Configuration Interface



3.1 System Bar

3.1.1 Task Menu

The list of Satyrn Explorer's primary functions is found under the Task menu.



The list of tasks, Hotkeys and the description of each task is shown below.

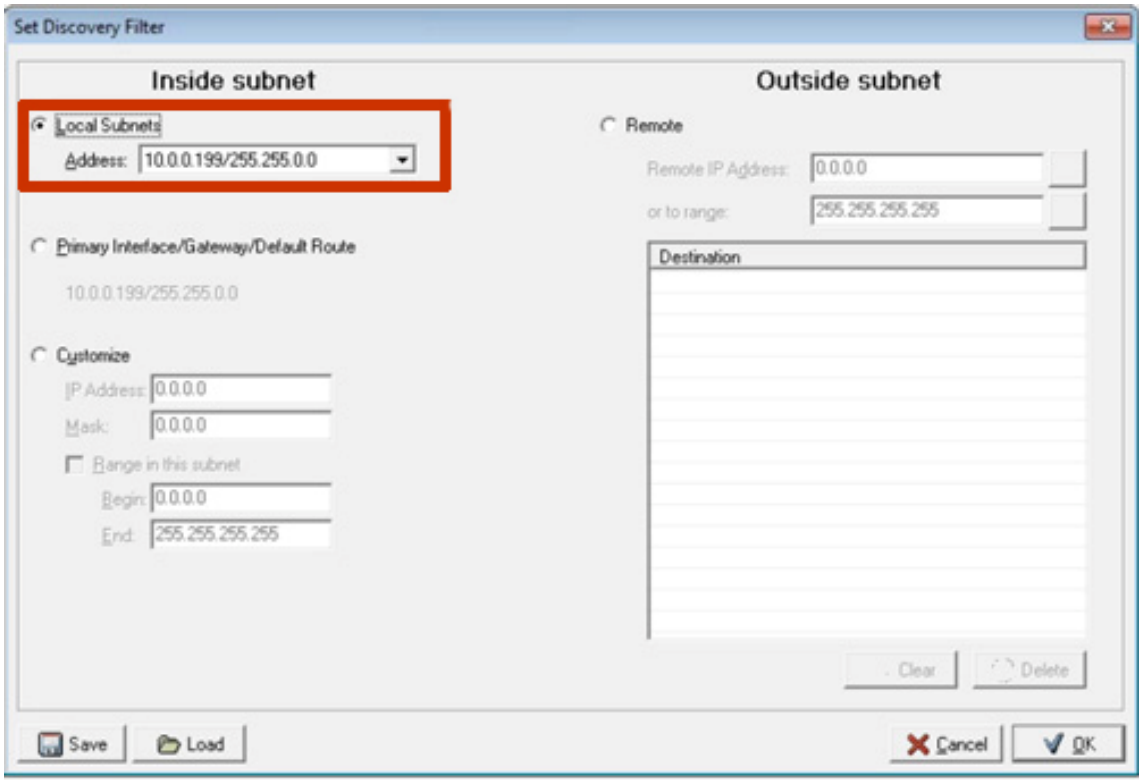
3.1.1.1 Discovery (Ctrl+D)

This will list all of the switches on the same subnet. Satyrn Explorer will then display all the discovered switches in the Switch Management Interface. The function's ability to locate switches can be modified by the Discovery Filter. Note: all switches can share the same IP address. To discover and change the IP address, use the Group IP Setting function in the Wizards in the Switch Management Interface.

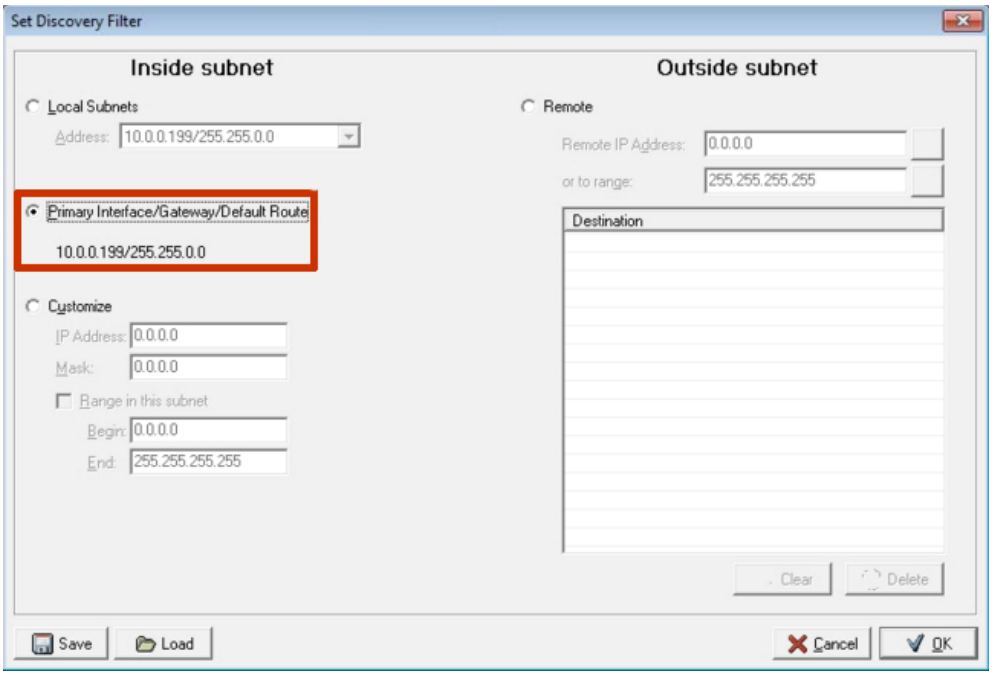
3.1.1.2 Discovery Filter (Ctrl+F)

Clicking on Discovery Filter will call up the Set Discovery Filter where you can select how you want the filter to discover switches.

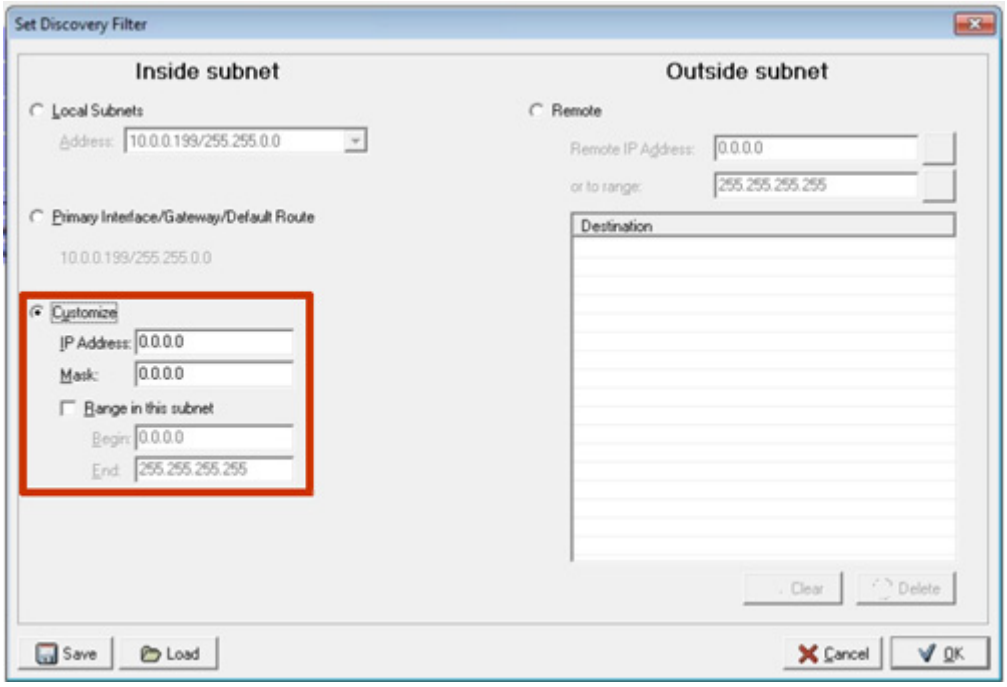
- Local Subnets: Satyrn Explorer will only discover switches connected to the specific IP address of the NIC selected.



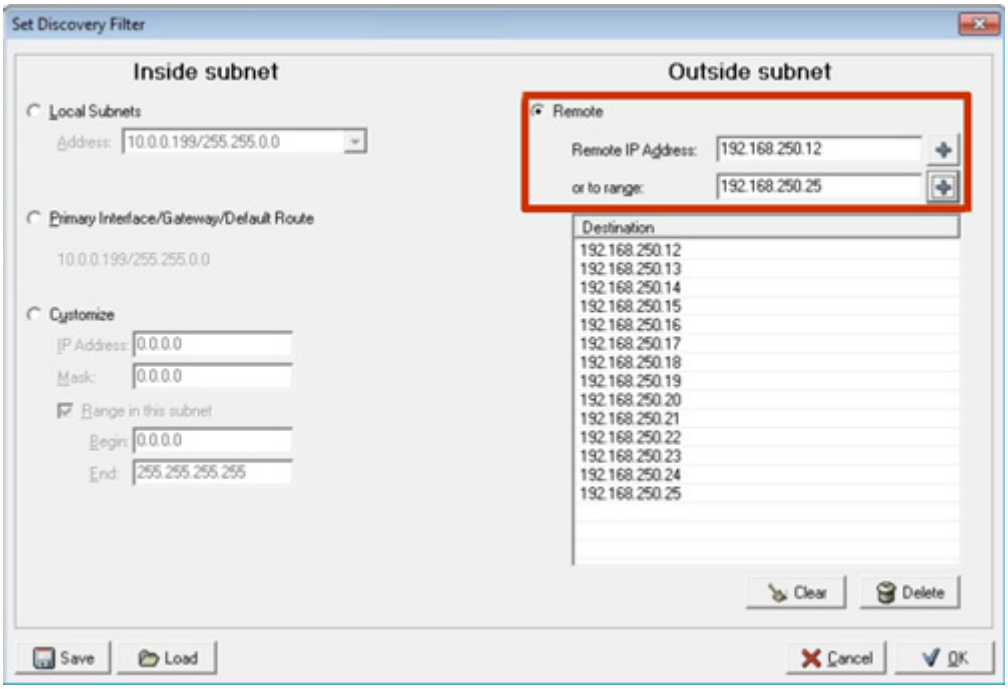
- Primary Interface/Gateway/Default Route: Satyrn Explorer will select a primary interface to locate the switches.



- Customise: Set up the subnet to filter; a smaller range in the subnet can be selected.



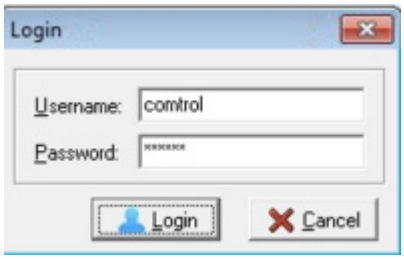
- Switches at specific IP addresses can be found using the Remote function.



A single IP address can be chosen using the Remote IP Address box and then click (+) to select it and move it to the lower table. Alternatively a range can be selected by filling both Address boxes and then clicking on the lower (+).

3.1.1.3 Login (Ctrl +L)

To configure the Switches you need to log into them using Login. Satyrn Explorer can log in simultaneously to multiple switches. Enter the correct account and password to log in.



When the login is successful, the switch icon will change from redlined to a having a small padlock adjacent to it.

Once logged in a 300 second (5 minutes) idle period will trigger an automatic logout. This period can be customised in Settings > System Config.

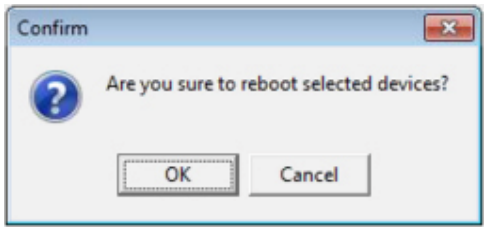
Automatic Logout can be disabled in the Function Bar.

3.1.1.4 Logout

Select a single or multiple switches to logout. Once logged out the switch icon will change from one with a padlock adjacent to it to having a redline around it.

3.1.1.5 Reboot (Ctrl+B)

Select switch to reboot. Multiple switches can be rebooted simultaneously.



When reboot is selected, a dialog window will appear to request confirmation before proceeding.

3.1.1.6 Open Web (Ctrl+W)

This will open the web management interface for the highlighted switch via the PC's default browser.

3.1.1.7 Refresh

This will refresh the selected Switch Function Management Interface and Switch Configuration Interface.

3.1.1.8 Refresh All

This will refresh all Switch Function Management Interfaces and Switch Configuration Interfaces.

3.1.2 Settings

The list of Satyrn Explorer's main settings is found in Settings in the Task menu.

3.1.2.1 Load Device (Ctrl+O)

This reloads the IP address list.

3.1.2.2 Save Device (Ctrl+S)

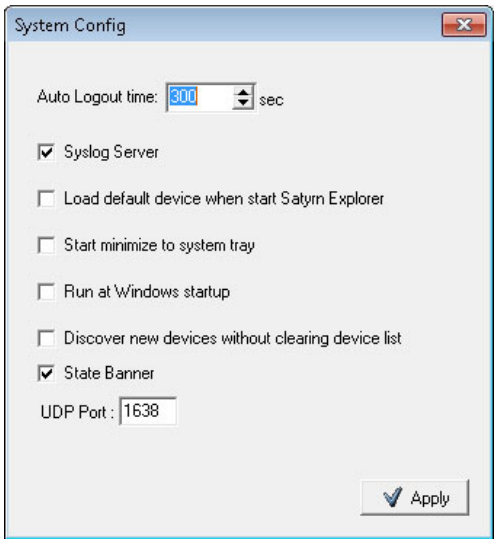
This saves the IP address list on the Discovery Filter/Remote page.

3.1.2.3 Save Default Device (Ctrl+A)

This saves the current configuration for use as future default values. When Satyrn Explorer is next launched, the default device(s) will be displayed without the need to locate them again. Note that Load Default Device will need to be enabled in the system configuration for this feature to work properly.

3.1.2.4 System Config

Opening System Config opens the following interface.



- Auto Logout time : Sets auto logout time.
- Syslog server : Enable or disable the syslog server. It is essential that the Syslog Server is enabled here before any logging can occur.
- Load default device when Explorer starts: Explorer utilizes the previously configured device information at start. This requires the previous use of the Setting > Save Default Device feature.
- Start minimized: When Explorer launches, it will start with the window minimized in the system toolbar.
- Run at Windows startup: Satyrn Explorer will launch automatically when Windows starts.

3.1.3 Help

Help > About shows the Satyrn View version information.

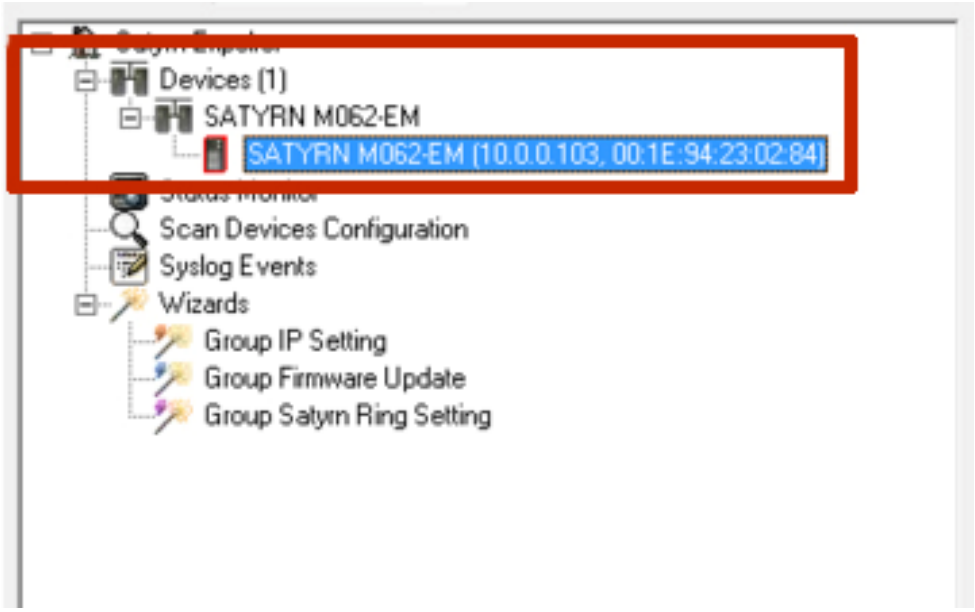
3.2 Function Bar

There are 12 icons on the task bar. The functions of these icons are identical to those of the functions in the Task Bar discussed in the previous section.

3.3 Switch Management Interface

3.3.1 Devices

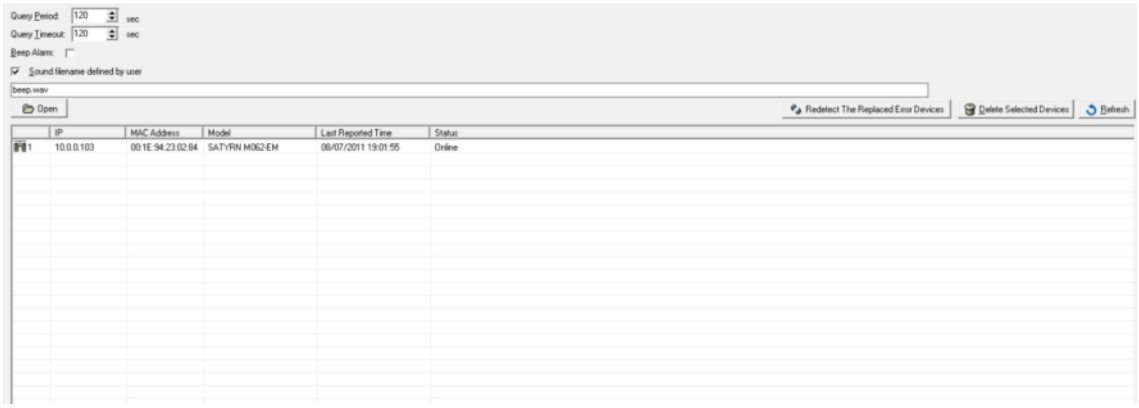
You can view and manage the device functionality for all of the switches connected to the network. Switch management can performed on one or more switches at the same time.



- Devices shows all the connected Switches
- All Devices lists all the connected Switches and their detailed information

3.3.2 Status Monitor

The Status Monitor provides the ability to monitor multiple switches on a single screen. Warnings of problems are provided through a colour-based system, immediately alerting the user to a potential problem.



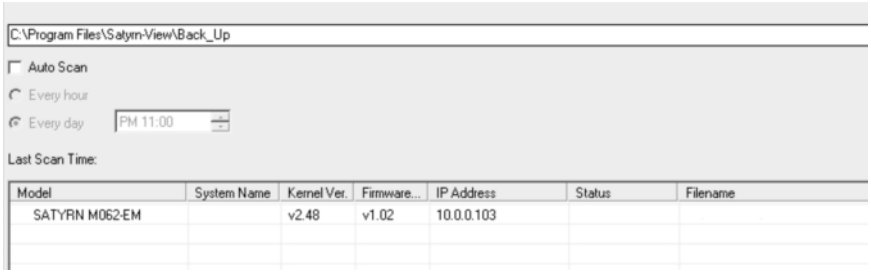
The following table describes the options available.

Options	Description
Query Period	The schedule by which Satyrn View will send a packet to the device in order to query its status.
Query Timeout	This sets the timeout period. If Satyrn View does not receive a reply from a device in this period of time, a warning message will be displayed.
Beep Alarm	Check the box for an audible alarm. Satyrn View will utilize the PC speaker as an event alert.
Change Error Devices	In the event of a switch failure, the Change Error Devices can redirect network data over an appropriate functioning switch in place of the failed switch.
Delete Selected Devices	Delete devices that do not require monitoring or are no longer connected to the network.
Refresh	Refresh the status.
IP	Display the IP Address of the specified switch.
MAC Address	Display the MAC Address of the specified switch.
Model	Display the model name of the specified switch.
Last Reported Time	Display the last time that Satyrn View received a report from the specified switch.
Status	Display current switch status and show any event alarms.

Open	Select a sound file to serve as an alarm. MP3 and WAV formats are supported.

3.3.3 Scan Devices Configuration

The **Scan Devices Configuration** function compares a device configuration with its backup configuration, thus helping prevent inadvertent backup errors.



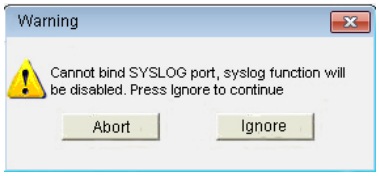
The following table describes the options available.

Options	Description
Source Directory	Select the directory in which backup files are saved.
Auto Scan	Automatically scan the devices currently connected to the network.
Every hour	Enable an hourly network scan of available devices.
Every day	Enable a daily network scan of available devices at a specified time.
Scan Now	Launch a scan of the devices currently connected to the network.
Model	Show the device's model name
Kernel Ver	Show the device's firmware kernel version.
Firmware Ver	Show the device's firmware version.
IP Address	Show the device's IP Address.
Status	Show the device configuration check status.
Filename	Show the device configuration filename.

3.3.4 Syslog Events

Satyrn Explorer has a built-in Syslog server so there is no need to use an additional Syslog server. In the Syslog event window, network events will be recorded and can be reviewed to examine historical switch performance.

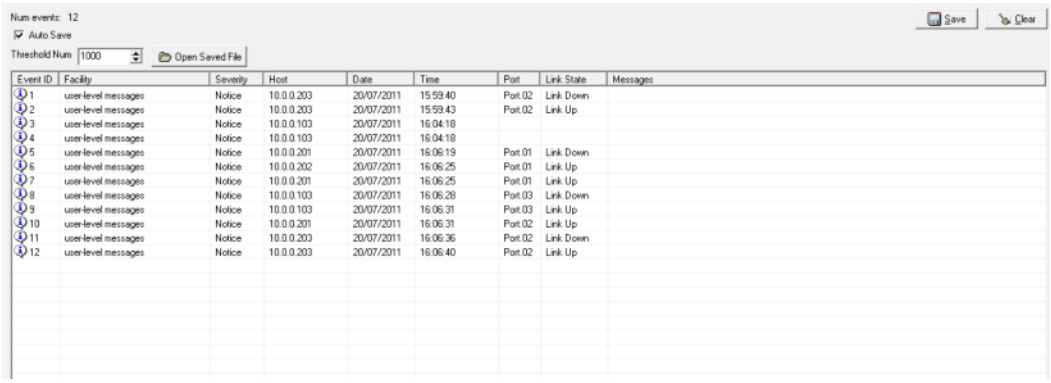
If you decide to use a third party System Log Server then you may see the following warning.



If you do not wish to use Satyrn Explorer's system log function, simply click the Ignore button and continue.

The following information refers to Satyrn Explorer's System Log Server and third party software will be different.

For this to work the Syslog Server needs to be enabled in Settings > System Config


Num events: 12
Save
Clear
Auto Save
Threshold Num 1000
Open Saved File
Event ID | Facility | Severity | Host | Date | Time | Port | Link State | Messages
1 user-level messages Notice 10.0.0.203 20/07/2011 15:59:40 Port.02 Link Down
2 user-level messages Notice 10.0.0.203 20/07/2011 15:59:43 Port.02 Link Up
3 user-level messages Notice 10.0.0.103 20/07/2011 16:04:18
4 user-level messages Notice 10.0.0.103 20/07/2011 16:04:18
5 user-level messages Notice 10.0.0.201 20/07/2011 16:06:19 Port.01 Link Down
6 user-level messages Notice 10.0.0.202 20/07/2011 16:06:25 Port.01 Link Up
7 user-level messages Notice 10.0.0.201 20/07/2011 16:06:25 Port.01 Link Up
8 user-level messages Notice 10.0.0.103 20/07/2011 16:06:28 Port.03 Link Down
9 user-level messages Notice 10.0.0.103 20/07/2011 16:06:31 Port.03 Link Up
10 user-level messages Notice 10.0.0.201 20/07/2011 16:06:31 Port.02 Link Up
11 user-level messages Notice 10.0.0.203 20/07/2011 16:06:36 Port.02 Link Down
12 user-level messages Notice 10.0.0.203 20/07/2011 16:06:40 Port.02 Link Up

The following table describes the options available.

Options	Description
Auto Save	When enabled, this function will automatically save the system logs once the specified number of displayed logs has been reached, the system logs will be saved to an Excel file.
Threshold num	The maximum number of system logs that will be displayed before saving them to an Excel file.
Save	Save the system log information to an Excel file.
Clear	Clear all system logs.

Event ID	The event's identification number.
Facility	The event class.
Severity	The nature of the event.
Host	The IP address of the event's location.
Date	The date of the event.
Time	The precise time of the event.
Port	The relevant port.
Link state	The current link status
Messages	The summary of the event.

3.3.5 Wizards

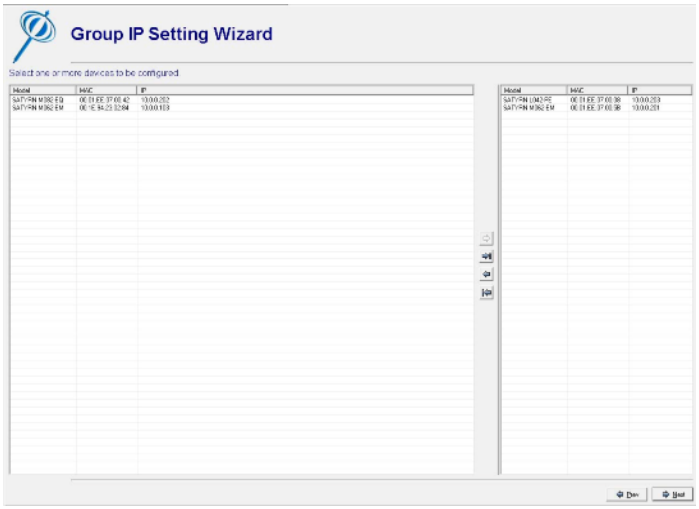
Satyrn View contains several software wizards to aid in the installation, configuration, and management of Satyrn switches. These wizards are most often used in setting IP addresses or updating the firmware of one or more switches. The wizards are useful in saving time in performing repetitive tasks and also help reduce the likelihood of error.

Welcome to Wizard Center
Please select a wizard you need
Group IP Setting Wizard
Group Firmware Update Wizard
Group Satyrn Ring Wizard

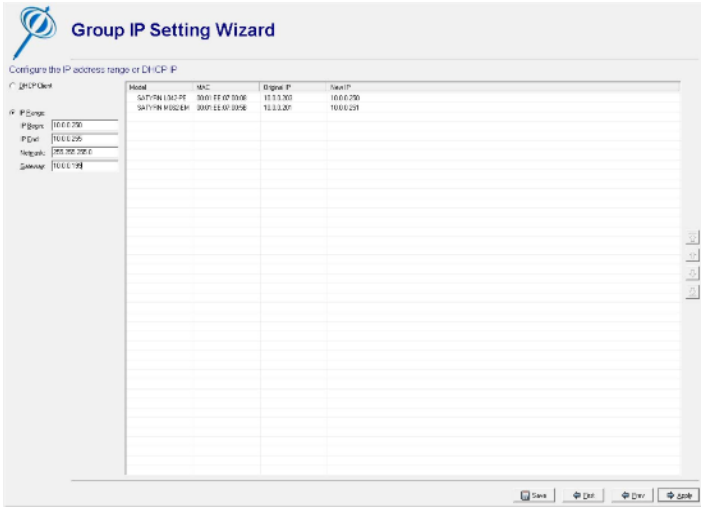
3.3.5.1 Group IP Setting Wizard

The Group IP Setting Wizard steps through the process of configuring IP addresses for one or more network devices. There are three steps to the Group IP Setting Wizard.

STEP 1 Select one or more devices to be configured.



STEP 2 Set the IP address range or DHCP IP address



STEP 3 Click to **Apply** the settings

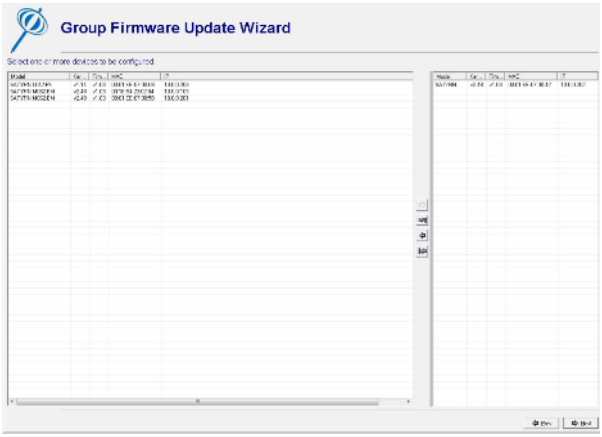
STEP 4 Verify the IP addresses configured by the wizard.

3.3.5.2 Group Firmware Update Wizard

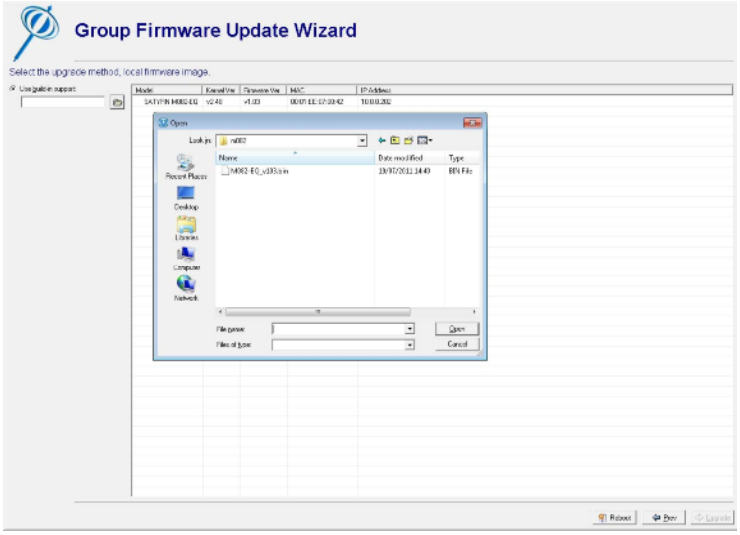
This wizard simultaneously updates the firmware on one or more network devices. There are four steps to utilising the Group Firmware Update Wizard.

Group Firmware Update Wizard
This wizard helps you to update firmware for a group of devices.
STEP 1. Select one or more devices to be configured.
STEP 2. Select the upgrade method, local firmware image.
STEP 3. Apply to upgrade selected firmware

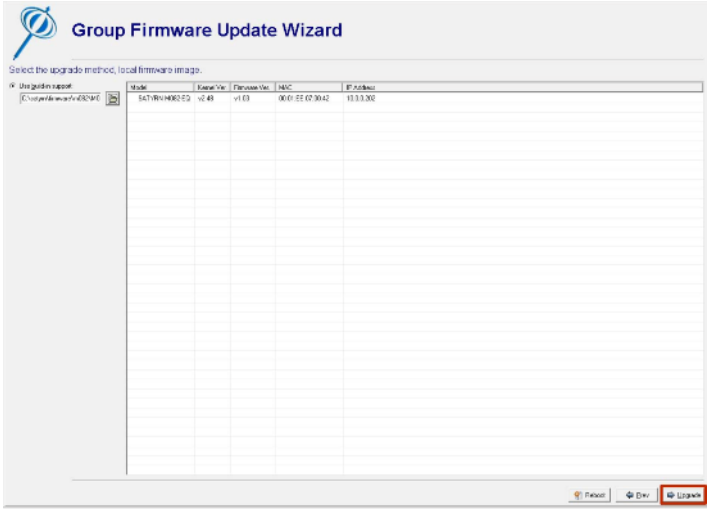
STEP 1 Select one or more devices to be configured.



STEP 2 Select the source of the firmware upgrade file: a local firmware image or a remote tftp server.



STEP 3 Click **Apply** to upgrade the selected firmware.

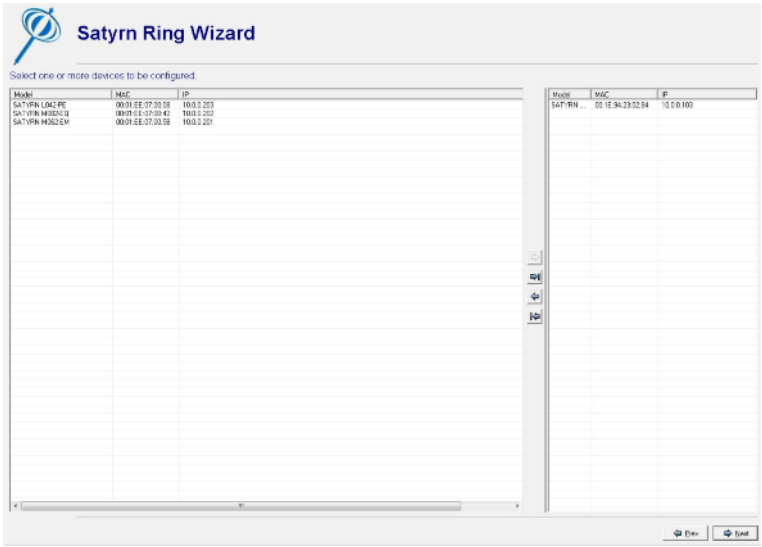


STEP 4. Reboot the switch(es) that were upgraded with new firmware.

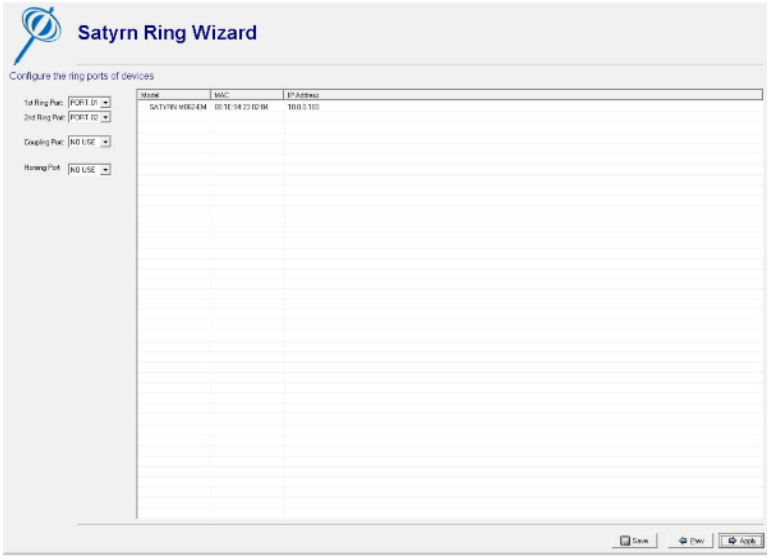
3.3.5.3 Group Satyrn Ring Setting Wizard

This wizard enables you to configure a group of devices into a Satyrn Ring in a series of three steps.

STEP 1 Select one or more devices to be configured into the Satyrn Ring.



STEP 2. Select which port number will carry out the Ring Functions.

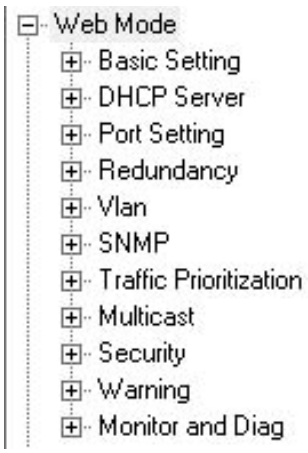


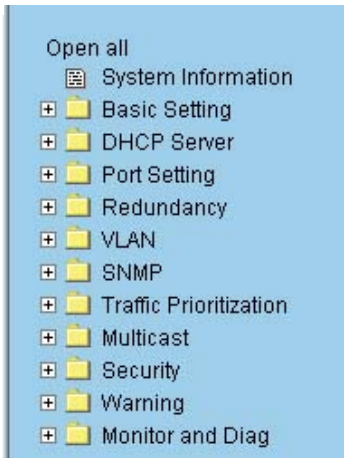
STEP 3 Click Apply to activate settings.

3.4 Switch Function Interface

The switch function interface mirrors the Browser based Management available on the embedded firmware on the Switch. Details in the sections below are for an M Series Switch, similar details would appear for the L Series Switches.

Further details of the specific function can be found in the respective manuals.





3.4.1 System Login

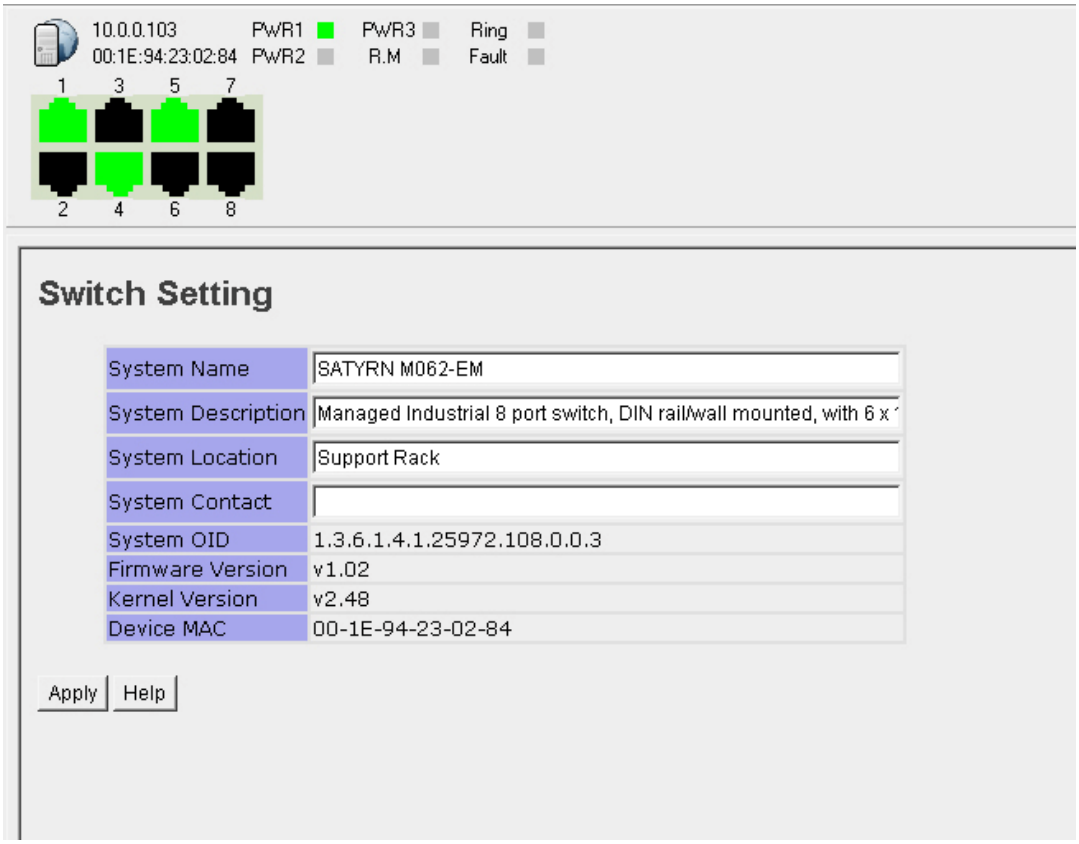
System Login

- Launch Satyrn Supervisor

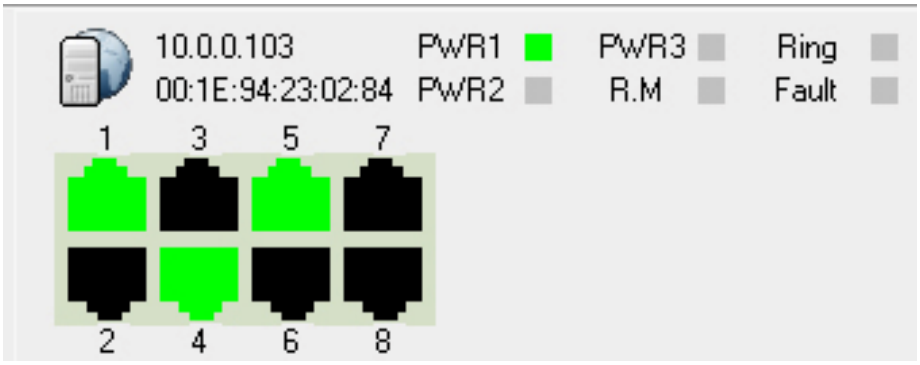
- Discover the switches
- Highlight the appropriate Switch
- The login screen appears.
- Enter the username and password. The default username and password are 'comtrol' and 'satyrn'.
- Click the **Login** button and the main interface of the switch management system will appear.
- Click on Web Mode in the Switch Function Interface to expand the list.

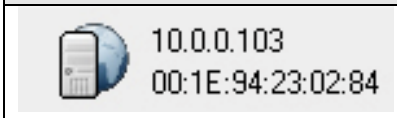
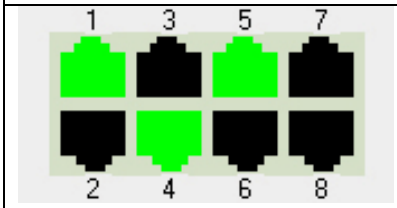
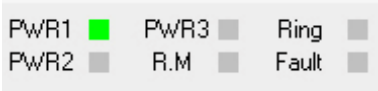
3.4.2 The function interface and the configuration interfaces

When a function is configured, the related parameters will be displayed on the configuration interface where the detail configurations can be selected. An example as below:



The basic switch details are shown in the top section which appears with each function.



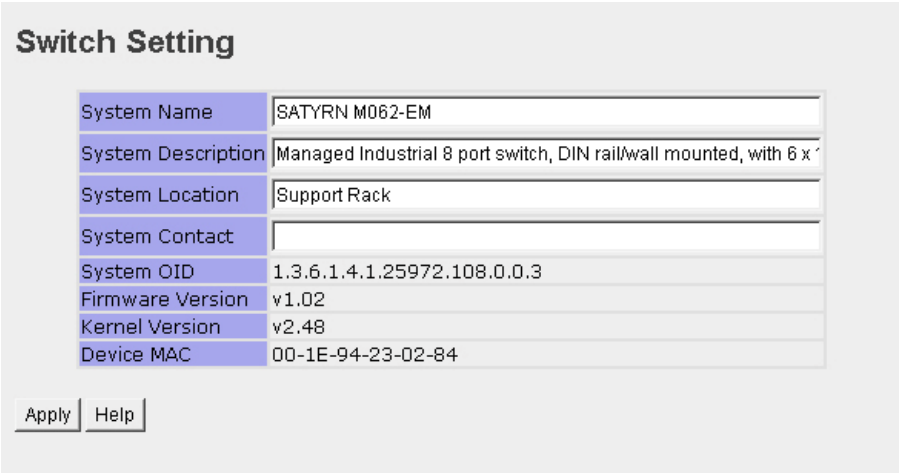
Icon	Description
	Show the IP and MAC Address of the switch.
	Show the port link status of the switch.
	Switch Status LEDs.

3.4.3 Basic settings

This section allows you to set the basic switch settings, IP address as well as perform various backup, restore, factory default and reboot operations.

3.4.3.1 Switch Setting

This is the standard switch setting interface.

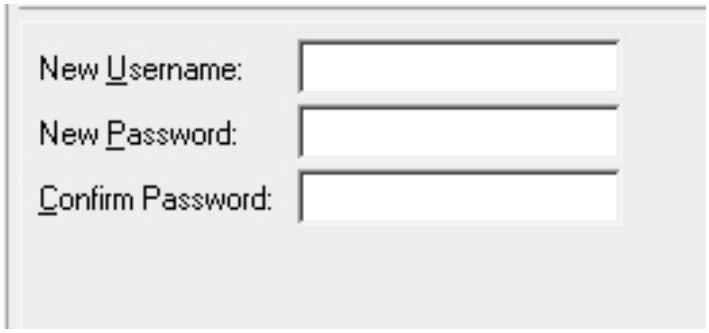


The following table describes the options available.

Option	Description
System Name	Assign the switch name here. Maximum length is 64 characters.
System Description	Displays the switch description.
System Location	Assign the switch's physical location here. The maximum length is 64 characters.
System Contact	Enter the name of a contact person or organization.
System OID	Displays the switch's OID information.
Firmware Version	Displays the switch's firmware version.
Kernel Version	Displays the software version of the kernel.
MAC Address	Displays the default hardware address assigned by the manufacturer.

3.4.3.2 Admin Password

You can change the Browser management login in user name and pass word here.

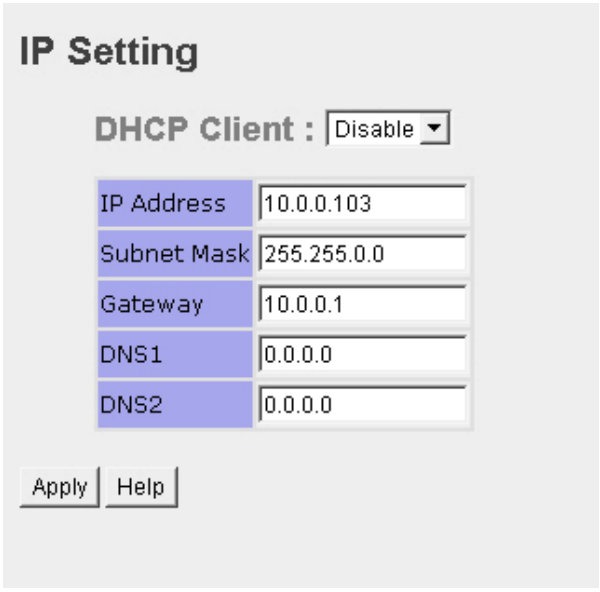


The following table describes the options available.

Option	Description
User name	Enter the new username. (The default is "**comtrol**")
New Password	Enter the new password. (The default is "**satyrn**")
Confirm password	Re-type the new password.
Apply	Click "**Apply**" to save changed configuration settings

3.4.3.3 IP Setting

You can configure the IP Settings and DHCP client function here.

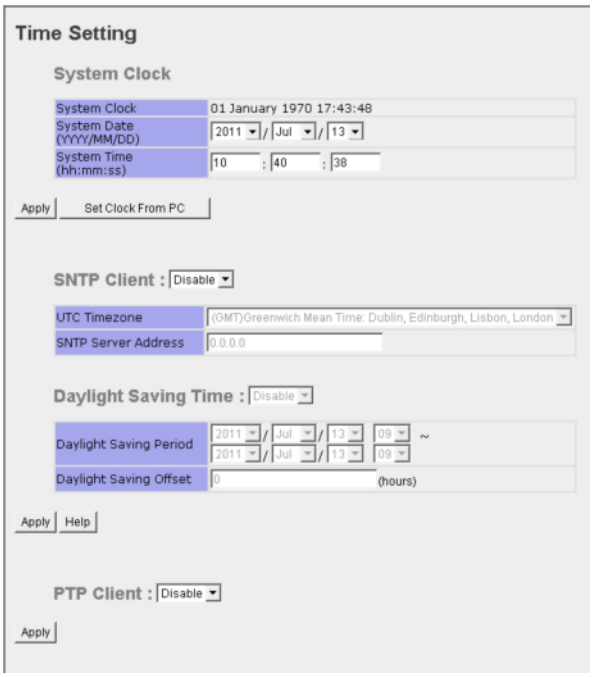


The following table describes the options available.

Option	Description
DHCP Client	Enable or disable the DHCP client function. When the DHCP client function is enabled, the switch will be assigned the IP address from the network DHCP server and the default IP address will be replaced by the IP address which the DHCP server has assigned. After clicking the "**Apply**" button, a pop-up dialog will show up to inform you that the DHCP client is enabled. . The current IP will be replaced by the new IP address on the DHCP server.
IP Address	Assign the IP address used by the network. If the DHCP client function is enabled, you do not need to assign an IP address. The network DHCP server will assign the switch's IP address and it will be displayed in this column. The default IP address is: 192.168.10.1
Subnet Mask	Assign the subnet mask of the IP address. If DHCP client function is enabled, you do not need to assign the subnet mask
Gateway	Assign the switch's network gateway. The default gateway is: 192.168.250.250
DNS1	Assign the primary DNS IP address
DNS2	Assign the secondary DNS IP address
Apply	Click "**Apply**" to activate the changed configuration.

3.4.3.4 SNTP Configuration

The SNTP (Simple Network Time Protocol) settings allow you to synchronize the switch's clocks over the network.



The following table describes the options available.

Option	Description
SNTP Client	Enable or disable SNTP function to obtain the time from the specified SNTP server.
Daylight Saving Time	Enable or disable the daylight saving time function. When daylight saving time is enabled you need to specify the dates it applies.
UTC Time zone	Set the switch's time zone. The table at the end of this section lists the different time zones for your reference.
SNTP Server IP Address	Set the SNTP server's IP address.
Daylight Saving Period	Set up the Daylight Saving start time and Daylight Saving end time. Note that both will be different every year.
Daylight Saving Offset	Set up the offset time.
PTP Client	The Precision Time Protocol (PTP) is a time-transfer protocol that allows precise synchronization of networks. Accuracy within the nanosecond range can be achieved with this protocol when using hardware-generated timestamps.
Apply	Click "**Apply**" to save the changed configuration settings.

Local Time Zone	Conversion from UTC	Time at 12:00 UTC
November Time Zone	- 1 hour	11 am
Oscar Time Zone	-2 hours	10 am
ADT - Atlantic Daylight	-3 hours	9 am
AST - Atlantic Standard EDT - Eastern Daylight	-4 hours	8 am
EST - Eastern Standard CDT - Central Daylight	-5 hours	7 am
CST - Central Standard MDT - Mountain Daylight	-6 hours	6 am
MST - Mountain Standard PDT - Pacific Daylight	-7 hours	5 am
PST - Pacific Standard ADT - Alaskan Daylight	-8 hours	4 am
ALA - Alaskan Standard	-9 hours	3 am
HAW - Hawaiian Standard	-10 hours	2 am
Nome, Alaska	-11 hours	1 am
CET - Central European FWT - French Winter MET - Middle European MEWT - Middle European Winter SWT - Swedish Winter	+1 hour	1 pm
EET - Eastern European, USSR Zone 1	+2 hours	2 pm
BT - Baghdad, USSR Zone 2	+3 hours	3 pm
ZP4 - USSR Zone 3	+4 hours	4 pm
ZP5 - USSR Zone 4	+5 hours	5 pm
ZP6 - USSR Zone 5	+6 hours	6 pm
WAST - West Australian Standard	+7 hours	7 pm
CCT - China Coast, USSR Zone 7	+8 hours	8 pm
JST - Japan Standard, USSR Zone 8	+9 hours	9 pm
EAST - East Australian Standard GST Guam Standard, USSR Zone 9	+10 hours	10 pm
IDLE - International Date Line NZST - New Zealand Standard NZT - New Zealand	+12 hours	Midnight

3.4.3.5 LLDP

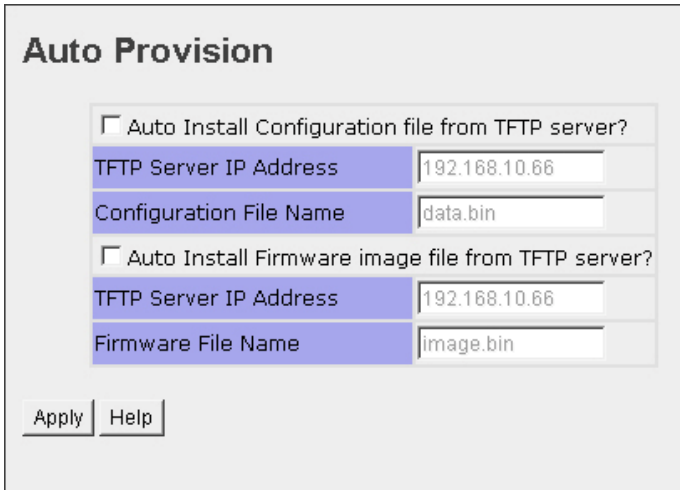
The LLDP (Link Layer Discovery Protocol) function allows the switch to advertise its information to other nodes on the network and store the information it receives.

The following table describes the options available.

Option	Description
LLDP Protocol	"**Enable**" or "**Disable**" LLDP function.
LLDP Interval	The interval for resending LLDP frames (default is 30 seconds)
Neighbour Info	Identifies the switches directly connected to the current switch
Apply	Click "**Apply**" to save the changed configuration.
Help	Show the help file.

3.4.3.6 Auto Provision

Auto Provision allows you to automatically update the switch firmware. You can put the firmware or a configuration file on a TFTP server. When you subsequently reboot the switch, it will upgrade automatically. Before updating, make sure you have your TFTP server ready and that both the firmware image and configuration file is on the TFTP server.

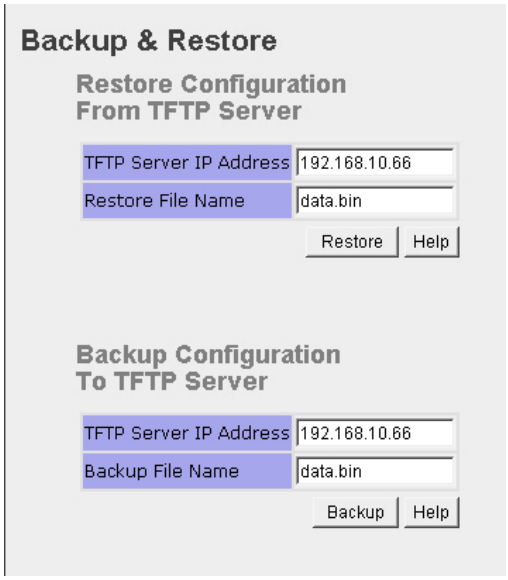


The following table describes the options available.

Options	Description
Auto Install Configuration	Check this box to auto install configuration file on reboot
TFTP Server IP Address	Enter the TFTP server IP address.
Configuration File Name	Enter the switch configuration file name
Auto install Firmware	Check this box to auto install Firmware Image on reboot
Firmware File Name	Enter the switch file name

3.4.3.7 Backup & Restore

The switch configuration is stored on an EEPROM. This can be backed up to the TFTP server, and then later restored.



The following table describes the options available.

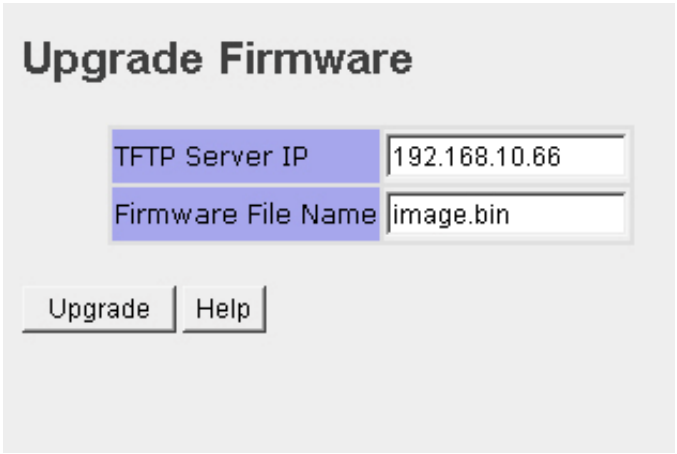
Options	Description
TFTP Server IP Address	Enter the TFTP server IP address.
Restore File Name	Enter the switch configuration file name
Restore	Click "**restore**" to restore the saved configuration.
Backup File Name	Enter the backup file name
Backup	Click "**backup**" to backup the current configuration.

3.4.3.8 Upgrade Firmware

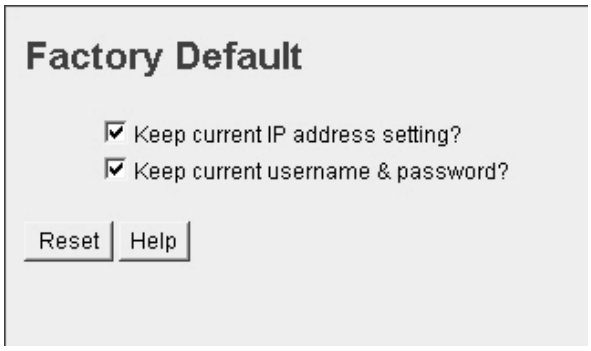
Upgrade Firmware allows you to update the switch's firmware. Before updating, be sure to have your TFTP server ready and the firmware image available on the TFTP server.

The following table describes the labels in this screen.

Label	Description
TFTP Server IP	Enter the TFTP server IP address.
Firmware File Name	Enter the firmware file name
Upgrade	Click "**upgrade**" to upgrade the firmware.



3.4.3.9 Factory Default



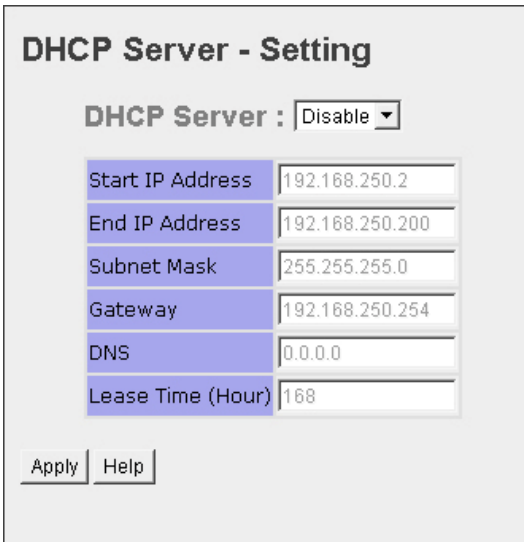
Use this function to reset the switch to default configuration. Click the Reset button to restore all configurations to their default values. You can select "**Keep current IP address setting**" and "**Keep current username & password**" to save the current IP and username and password whilst resetting everything else to the factory defaults.

3.4.3.10 System Reboot

3.4.4 DHCP Server

The M Series switches can operate as a DHCP server. This section allows you to select this mode and select various parameters.

3.4.4.1 Setting

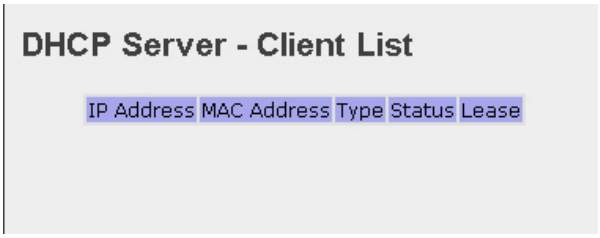


The following table describes the options available.

Option	Description
DHCP Server	Enable or Disable the DHCP Server function. When enabled, the switch will act as the DHCP server on the local network
Start IP Address	The lower limit of the dynamic IP address range. The lower IP address is the beginning of the dynamic IP address range. For example, if the dynamic IP address range is from 192.168.1.100 to 192.168.1.200, then 192.168.1.100 will be the start IP address.
End IP Address	The upper limit of the dynamic IP address range. The highest IP address is the end of the dynamic IP address range. For example, if the dynamic IP address range is from 192.168.1.100 to 192.168.1.200, then 192.168.1.200 will be the End IP address
Subnet Mask	The subnet mask for the dynamic IP address range.
Gateway	The network gateway.
DNS	The Domain Name Server.
Lease Time (Hour)	The time at which the system will reset the assigned dynamic IP to ensure the IP address is in use.
Apply	Click "**Apply**" to save the changed configuration.

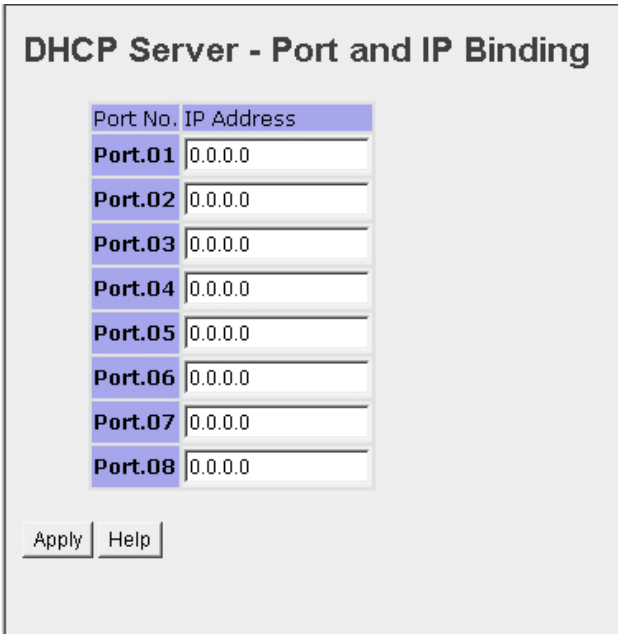
3.4.4.2 Client List

When the DHCP server function is activated, the system will collect the DHCP client information and display it here.



3.4.4.3 Port and IP binding

You can assign a specific IP address in the assigned dynamic IP range to a specific port. When a device is connecting to the port and requests a dynamic IP assignment, the system will assign the specific IP address allocated to that port.

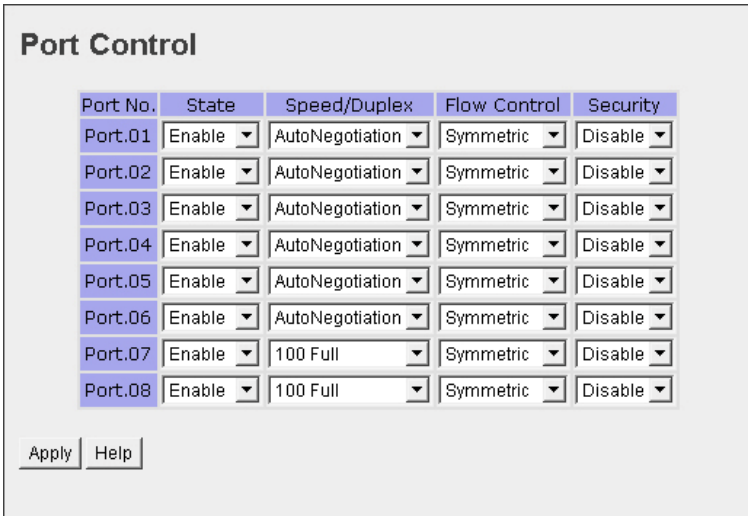


3.4.5 Port Setting

This section enables you to assign specific parameters to each individual port.

3.4.5.1 Port Control

The Port Control function allows you to set the state, speed/duplex, flow control, and security of the individual ports.



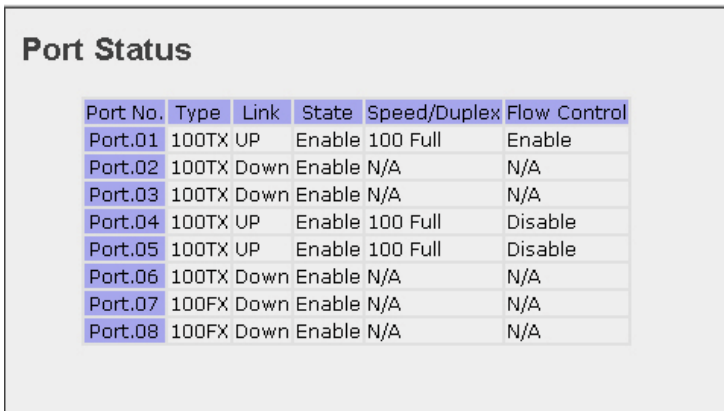
The following table describes the options available.

Option	Description
Port No.	Port identification number.
State	Enable or Disable the port.
Speed/Duplex	Options: Auto-negotiation, 100 full, 100 half, 10 full, 10 half mode.

Flow Control	Support symmetric and asymmetric mode to avoid packet loss when congestion occurs.
Apply	Click "**Apply**" to save the changed configuration settings.

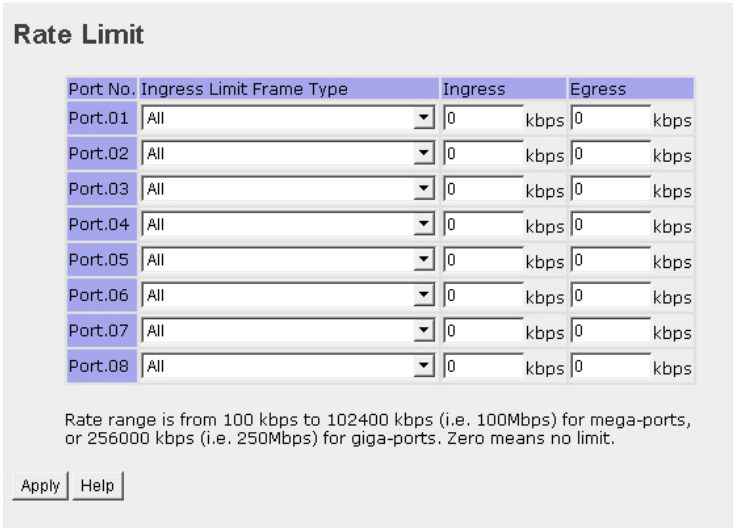
3.4.5.2 Port Status

Once the Port Control settings have been made they can then be seen in the Port Status.


Port Status
Port No. Type Link State Speed/Duplex Flow Control
Port.01 100TX UP Enable 100 Full Enable
Port.02 100TX Down Enable N/A N/A
Port.03 100TX Down Enable N/A N/A
Port.04 100TX UP Enable 100 Full Disable
Port.05 100TX UP Enable 100 Full Disable
Port.06 100TX Down Enable N/A N/A
Port.07 100FX Down Enable N/A N/A
Port.08 100FX Down Enable N/A N/A

3.4.5.3 Rate Limit

You can set a limit on the traffic of all ports, including broadcast, multicast and flooded Unicast using this function.. You can distinguish between transmitted and received data and permit different limits to be set on incoming and outgoing traffic.


Rate Limit
Port No. Ingress Limit Frame Type Ingress Egress
Port.01 All 0 kbps 0 kbps
Port.02 All 0 kbps 0 kbps
Port.03 All 0 kbps 0 kbps
Port.04 All 0 kbps 0 kbps
Port.05 All 0 kbps 0 kbps
Port.06 All 0 kbps 0 kbps
Port.07 All 0 kbps 0 kbps
Port.08 All 0 kbps 0 kbps
Rate range is from 100 kbps to 102400 kbps (i.e. 100Mbps) for mega-ports, or 256000 kbps (i.e. 250Mbps) for giga-ports. Zero means no limit.
Apply
Help

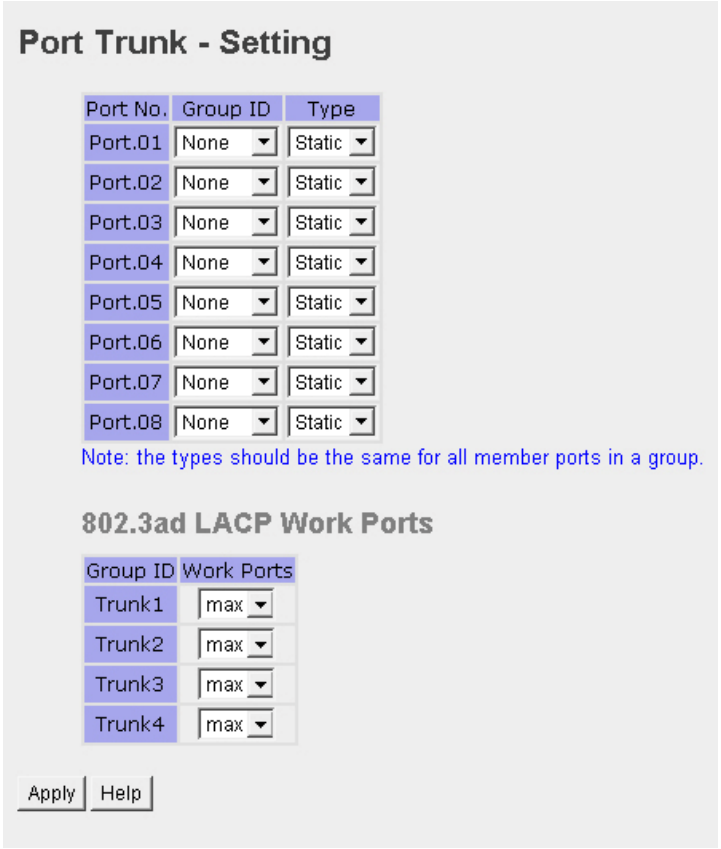
The following table describes the options available.

Option	Description
Ingress Limit Frame Type	Options: ○ "**all**" ○ "**Broadcast only**" ○ "**Broadcast/Multicast**" ○ "**Broadcast/Multicast/Flooded Unicast**"
Ingress	The limit on traffic received through the switch port.
Egress	The limit on traffic transmitted through the switch port.
Apply	Click "**Apply**" to save the configuration.

3.4.5.4 Port Trunk

Port Trunk setting

Static trunk or 802.3ad LACP can be selected to combine several physical links with a logical link in order to increase the bandwidth.

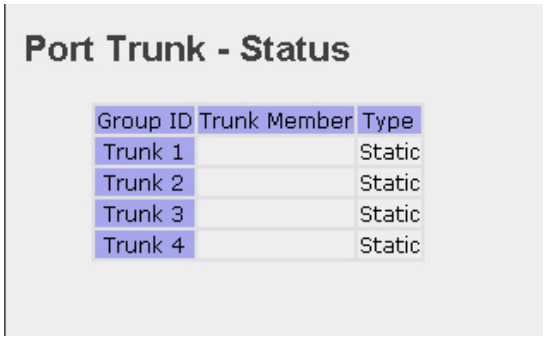


The following table describes the options available.

Option	Description
Group ID	Select the port to join a trunk group.
Type	Choose between static trunk and 802.3ad LACP.
Apply	Click "**Apply**" to save the changed configuration.

Port Trunk – Status

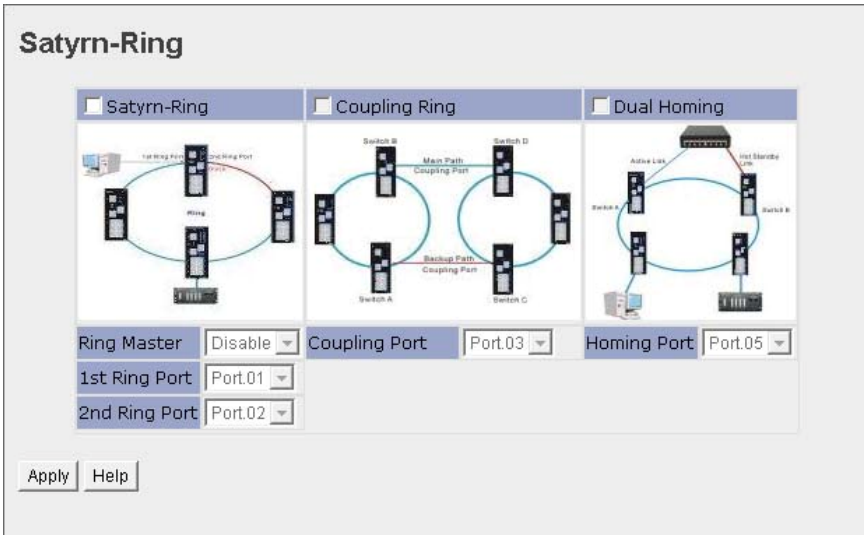
You can check the configuration of port trunk here.



3.4.6 Redundancy

3.4.6.1 Satyrn-Ring

Satyrn-Ring features one of the most powerful redundant ring technologies in the world. The recovery time of Satyrn-Ring is less than 10 mS over 250 units of connections. This redundancy can reduce unexpected malfunctions caused by changes to the network topology. Satyrn-Ring technology supports three ring topologies for network redundancy: Satyrn-Ring, Coupling Ring and Dual Homing.



The following table describes the options available.

Option	Description
Satyrn-Ring	Check box to enable Satyrn-Ring.
Ring Master	There should be only one Ring Master in a ring. However if there are two or more switches for which Ring Master is enabled, the switch with the lowest MAC address will serve as the Ring Master and others will serve as Backup Masters.
1st Ring Port	The Ring Master's primary port.
2nd Ring Port	The Ring-Master's secondary port.
Coupling Ring	Check box to enable Coupling Ring. Coupling Ring can be used to divide a big ring into two smaller rings to prevent network topology changes from affecting all the switches.. It is useful for connecting two Satyrn-Rings.
Coupling Port	Link to Coupling Port of the switch in another ring. A Coupling Ring needs four switches to build active and backup links. Set a port as coupling port. The coupled four ports of four switches will be run in active/backup mode.
Control Port	Link to Control Port of the switch of the same ring. Control Port used to transmit control signals.
Dual Homing	Check box to enable Dual Homing. By selecting Dual Homing mode, Satyrn-Ring will be connected to normal switches through two RSTP links (ex: backbone Switch). The two links work in active/backup mode and connect each Satyrn-Ring to the normal switches in RSTP mode.
Apply	Click "**Apply**" to save the changed configuration settings.

Note: Do not set one switch as both a Ring Master and a Coupling Ring at the same time as this will place a heavy load on the network.

3.4.6.2 Satyrn-Open

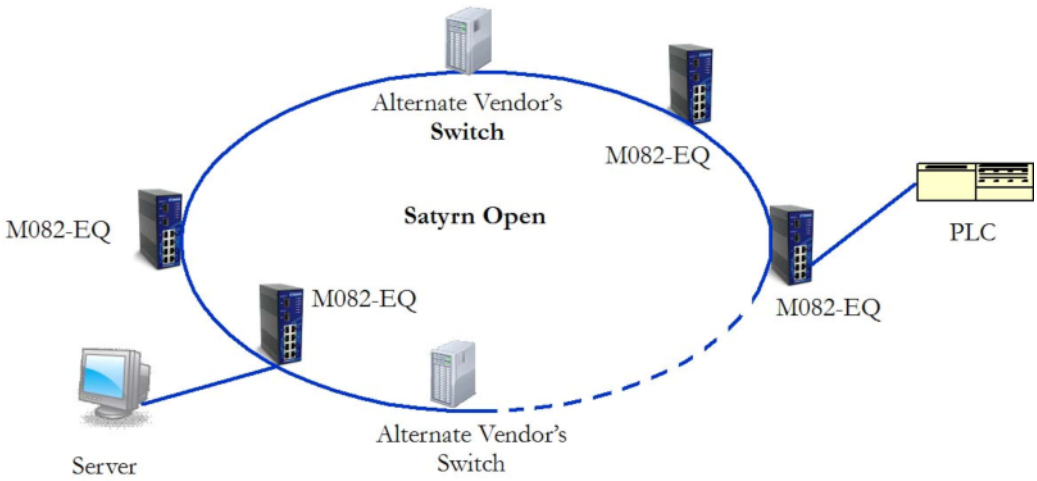
Satyrn-Open technology can be utilized with proprietary rings from other vendors. Satyrn switches can be added to networks based on other ring technologies and will cooperate with managed switches from other vendors.

Further vendors are being added all the time. Contact Technical Support for an up to date list.

The following table describes the options available.

Option	Description
Enable	Enable the Satyrn-Open function.
Vendor	Select the appropriate vendor for the ring you want to join.
1st Ring Port	Select the port to connect to the ring
2nd Ring Port	Select the port to connect to the ring

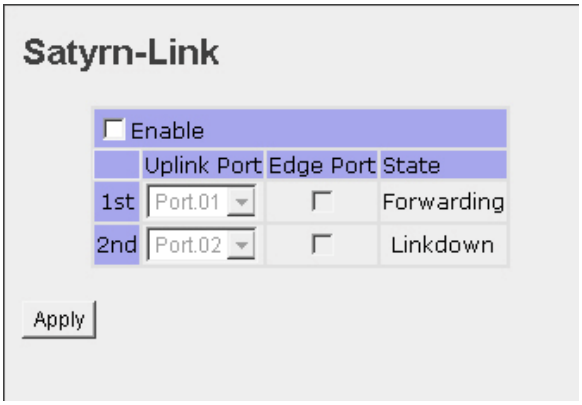
An example of a Satyrn-Open connection is shown below.



3.4.6.3 Satyrn Link

Satyrn Link allows you to add on network redundancy topology for any backbone network. This enables multiple redundant network rings to combine together and function as a larger more robust network.

Satyrn Link only requires the edge port of the edge switch to be identified with other switches in the ring with Satyrn Link enabled.



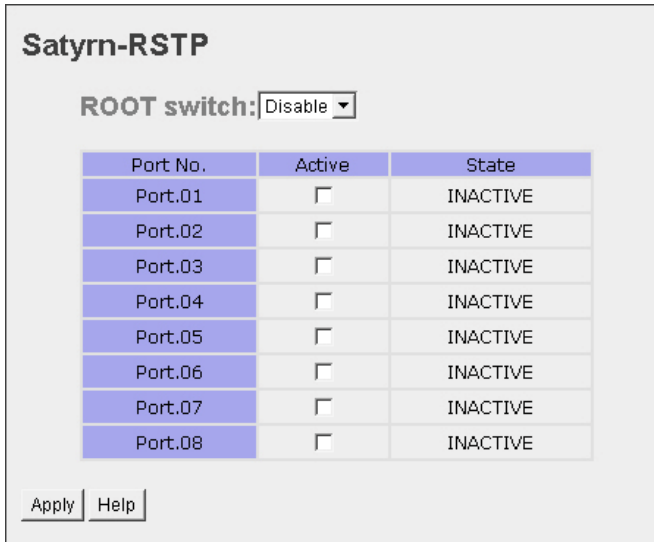
The following table describes the options available.

Option	Description
Enable	Enable the Satyrn-Link function.
Uplink Port	Select the appropriate port for 1st or 2nd uplink port
Edge Port	Select the port connected to the main riing
Apply	Apply the selected settings

3.4.6.4 Satyrn-RSTP

Satyrn-RSTP is Comtrol's proprietary redundant ring technology. It is an improvement upon standard STP/RSTP, as the recovery time of Satyrn-RSTP is less than 20ms. Satyrn-RSTP also supports more connection nodes in a ring topology. The key feature is that the individual switches can be set up as either master or backup devices.

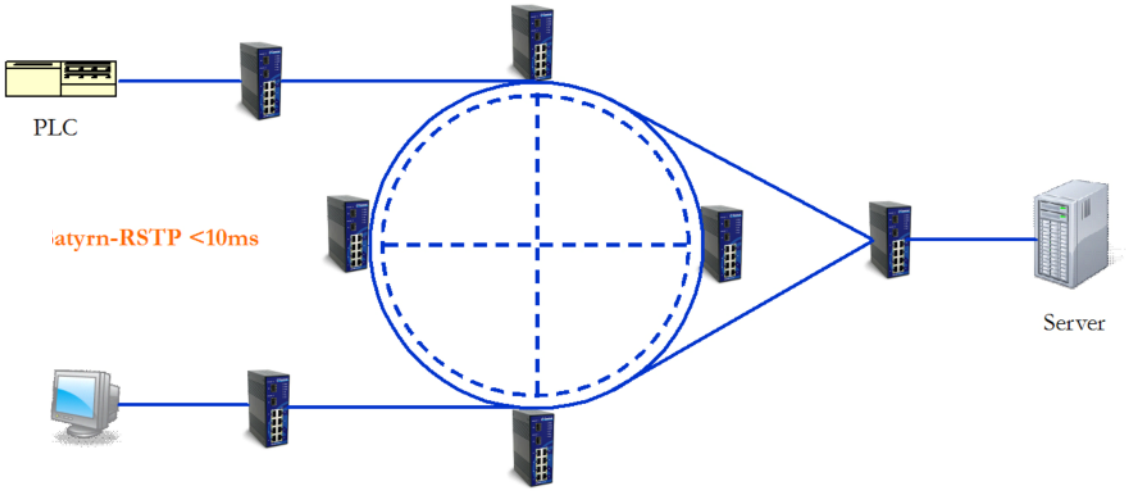
The Satyrn-RSTP configuration page is shown below.



The following table describes the options available.

Option	Description
ROOT switch	The switch can be assigned to be the master or backup device.
Port Active	Select the port
Status	○ **INACTIVE -** If the check box is unticked, the port is not involved in the Satyrn-RSTP structure. ○ **LINKDOWN:** If the check box is ticked, and the cable is disconnected or the connection is inactive, the state will show as "LINKDOWN". ○ **BLOCKING:** The port state is in this state if a switching loop is created. ○ **FORWARDING:** The port receives and sends data in normal operation.
Apply	Apply the selected settings

An example of Satyrn-RSTP is shown below.

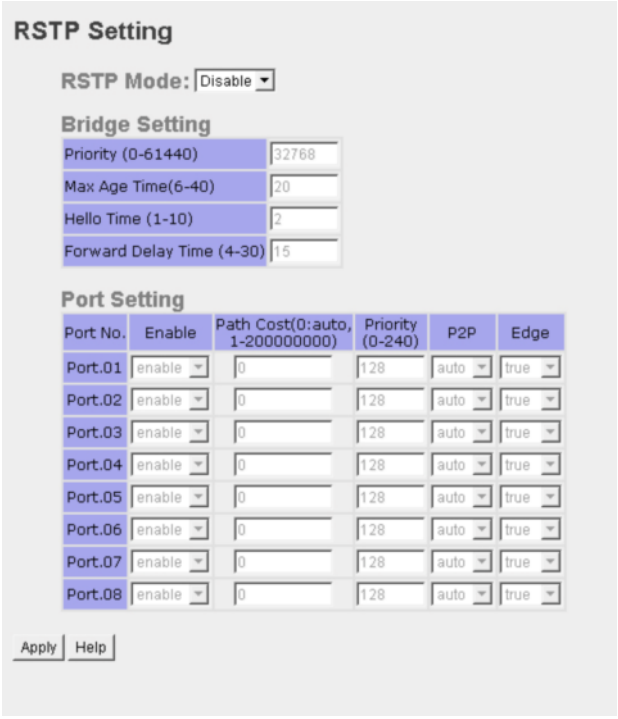


3.4.6.5 RSTP

The Rapid Spanning Tree Protocol (RSTP) is an improved variant of the Spanning Tree Protocol. It provides faster spanning tree convergence after a change to the network topology. The system also supports STP and will auto detect connected devices that are running STP or RSTP protocol.

RSTP Settings

You can enable or disable the RSTP function, and set the parameters for each port.


RSTP Setting
RSTP Mode: Disable
Bridge Setting
Priority (0-61440) 32768
Max Age Time(6-40) 20
Hello Time (1-10) 2
Forward Delay Time (4-30) 15
Port Setting
Port No. Enable Path Cost(0:auto, 1-200000000) Priority (0-240) P2P Edge
Port.01 enable 0 128 auto true
Port.02 enable 0 128 auto true
Port.03 enable 0 128 auto true
Port.04 enable 0 128 auto true
Port.05 enable 0 128 auto true
Port.06 enable 0 128 auto true
Port.07 enable 0 128 auto true
Port.08 enable 0 128 auto true
Apply Help

The following table describes the options available.

Option	Description
RSTP mode	The RSTP function must be enabled before configuring the related parameters.
Priority (0-61440)	A value used to identify the root bridge. The bridge with the lowest value with the highest priority and is selected as the root. If the value is changed, you must restart the switch. The value must be between 0 and 61440 and be a multiple of 4096.
Max Age (6-40)	The number of seconds a bridge will wait without receiving Spanning-Tree Protocol configuration messages before reconfiguring. Select a value between 6 and 40.
Hello Time (1-10)	The time in which the switch sends out a BPDU (Bridge Protocol Data Unit) packet to check current RSTP status. Enter a value between 1 through 10.
Forwarding Delay Time (4-30)	The number of seconds a port waits before changing from its Rapid Spanning Tree Protocol learning and listening states to the forwarding state. Enter a value between 4 and 30.
Path Cost (1-200000000)	The cost of the path from the transmitting bridge to the receiving bridge at the specified port. The value must be between 1 and 200000000.
Priority (0-240)	Select which port should be blocked by setting the LAN priority. The priority must be a value between 0 and 240 and be a multiple of 16.
Admin P2P	Some of the rapid state transactions that are possible within RSTP are dependent upon whether the port concerned can only be connected to exactly one other bridge (i.e., it is served by a

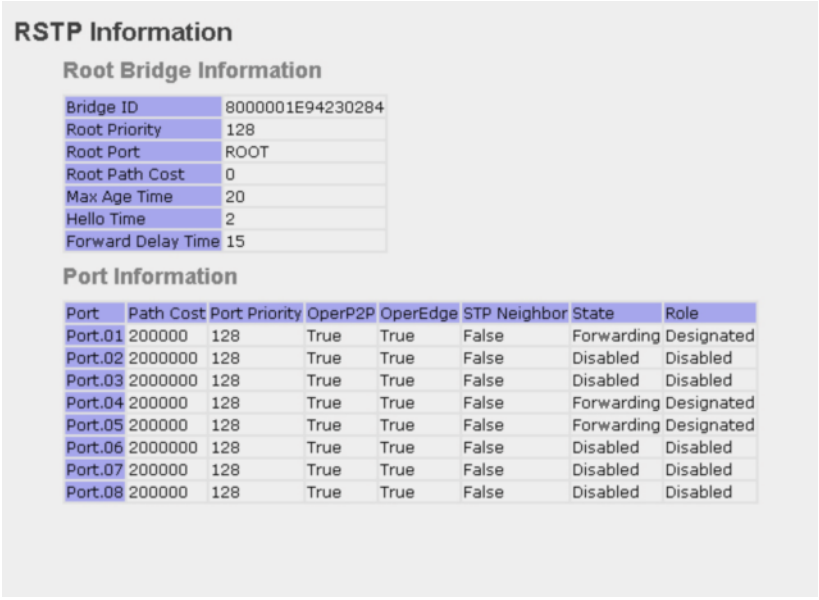
	point-to-point LAN segment), or it can be connected to two or more bridges (i.e., it is served by a shared medium LAN segment). This function allows the P2P status of the link to be administratively controlled. True means P2P is enabled. False means P2P is disabled.
Admin Edge	The port directly connected to end stations that does not create bridging loop in the network. To configure the port as an edge port, set the port to "**True**".
Admin Non STP	The port includes the STP mathematic calculation. **True** does not include the STP mathematic calculation. **False** includes the STP mathematic calculation.
Apply	Click "**Apply**" to save the changed configuration.

NOTE: Use the following formula to configure the MAX Age, Hello Time, and Forward Delay Time:

2 x (Forward Delay Time value –1) ≥ Max Age value ≥ 2 x (Hello Time value +1)

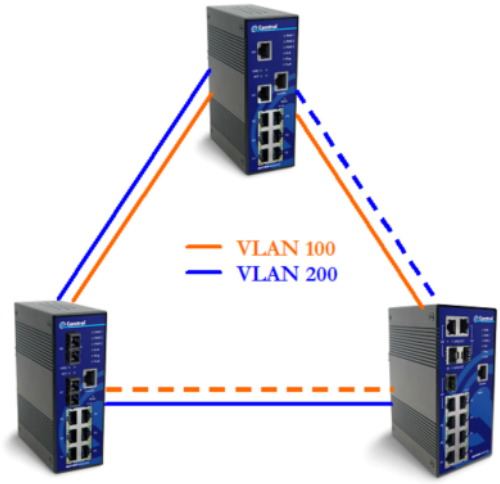
RSTP Information

Once the RSTP settings have been made they can then be seen in the RSTP Information.

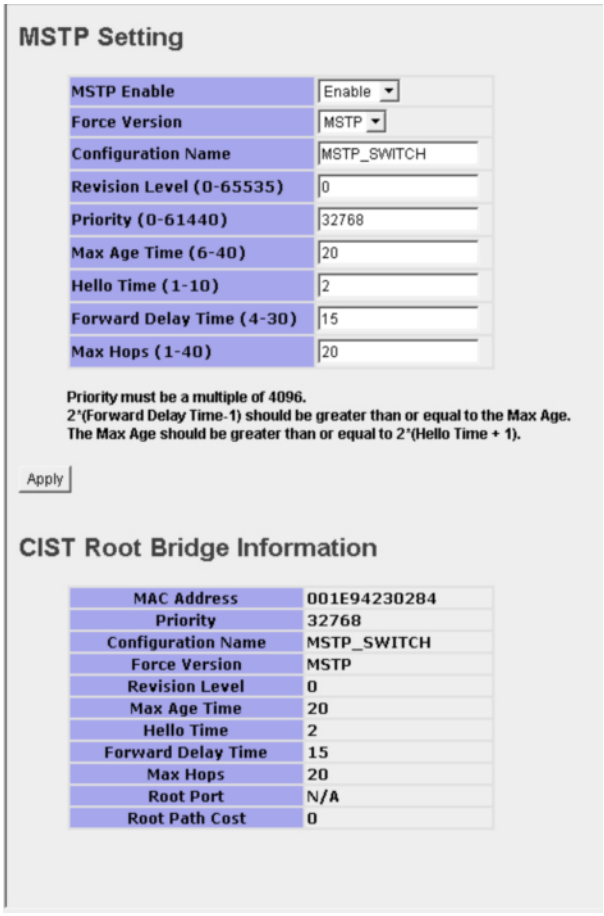

RSTP Information
Root Bridge Information
Bridge ID 8000001E94230284
Root Priority 128
Root Port ROOT
Root Path Cost 0
Max Age Time 20
Hello Time 2
Forward Delay Time 15
Port Information
Port Path Cost Port Priority OperP2P OperEdge STP Neighbor State Role
Port.01 200000 128 True True False Forwarding Designated
Port.02 2000000 128 True True False Disabled Disabled
Port.03 2000000 128 True True False Disabled Disabled
Port.04 200000 128 True True False Forwarding Designated
Port.05 200000 128 True True False Forwarding Designated
Port.06 2000000 128 True True False Disabled Disabled
Port.07 200000 128 True True False Disabled Disabled
Port.08 200000 128 True True False Disabled Disabled

3.4.6.6 MSTP

Multiple Spanning Tree Protocol (MSTP) is a standard protocol base on IEEE 802.1s. The function permits several VLANs to be mapped to a reduced number of spanning tree instances because most networks do not require more than a few logical topologies. It supports a load balancing scheme and puts less stress on the CPU than PVST (a proprietary Cisco protocol).



MSTP Settings

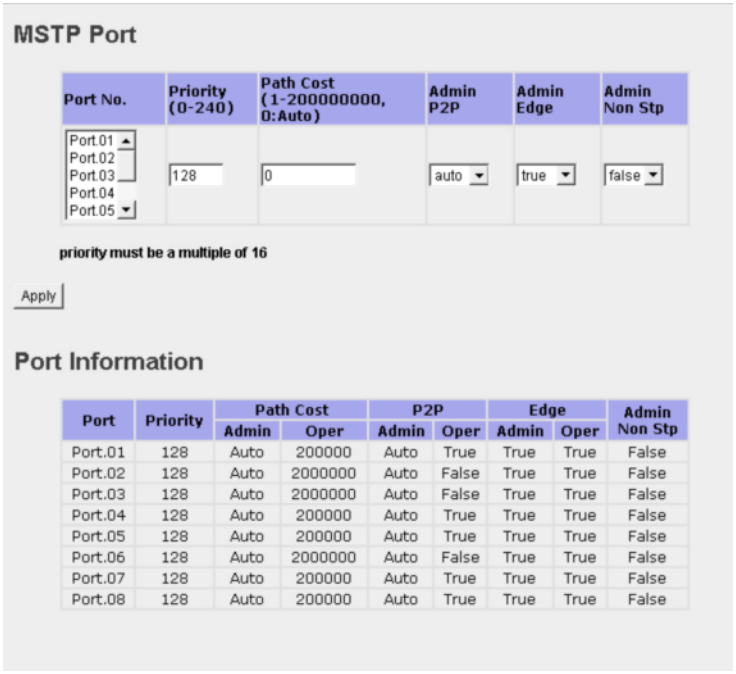


The following table describes the options available.

Option	Description
MSTP Enable	The MSTP function must be enabled before configuring the related parameters.
Force Version	The Force Version function can be used to force a VLAN bridge utilising RSTP to operate in an MSTP-compatible manner.
Configuration Name	An MST Region must have the same MST configuration name.
Revision Level (0-65535)	An MST Region must have the same revision level.
Priority (0-61440)	A value used to identify the root bridge. The bridge with the lowest value has the highest priority and is selected as the root. If the value is changed, you must restart the switch. The value must be between 0 and 61440 and be a multiple of 4096.
Max Age(6-40)	The number of seconds a bridge will wait without receiving Spanning-Tree Protocol configuration messages before reconfiguring. The value must be between 6 and 40.
Hello Time (1-10)	How often the switch sends out the BPDU (Bridge Protocol Data Unit) packet in order to check RSTP current status. The value must be between 1 and 10.
Forwarding Delay Time (4-30)	The number of seconds a port must wait before changing from a learning/listening state to a forwarding state. The value must be between 4 and 30.
Max Hops (1-40)	This parameter is in addition to those specified for RSTP. A single value will apply to all Spanning Trees within an MST Region (the CIST and all MSTIs) for which the Bridge is the Regional Root.
Apply	Click "**Apply**" to save the changed configuration.

When the configuration has been applied, details are confirmed in the CIST Root Bridge Information which appears.

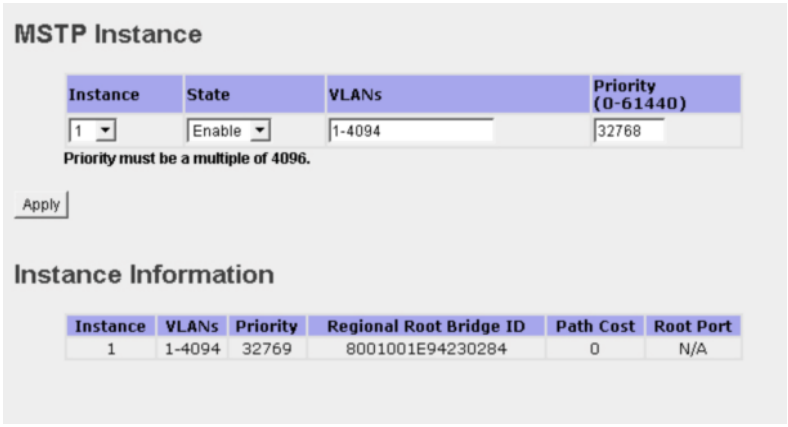
MSTP Port



The following table describes the options available.

Option	Description
Port No.	Selects the port you want to configure.
Priority (0-240)	Select which port should be blocked by setting the LAN priority. The priority must be a value between 0 and 240 and be a multiple of 16.
Path Cost (1-200000000)	The cost of the path from the transmitting bridge to the receiving bridge at the specified port. The value must be between 1 and 200000000.
Admin P2P	Some of the rapid state transactions that are possible within RSTP are dependent upon whether the port concerned can only be connected to exactly one other bridge (i.e., it is served by a point-to-point LAN segment), or it can be connected to two or more bridges (i.e., it is served by a shared medium LAN segment). This function allows the P2P status of the link to be administratively controlled. P2P-enabled equals "**True**". P2P-disabled equals "**False**".
Admin Edge	The port is directly connected to end stations and cannot create bridging loop in the network. To configure the port as an edge port, set the port to "**True**".
Admin Non STP	The port includes the STP mathematic calculation. **True** does not include the STP mathematic calculation. **False** includes the STP mathematic calculation.
Apply	Click "**Apply**" to save the changed configuration.

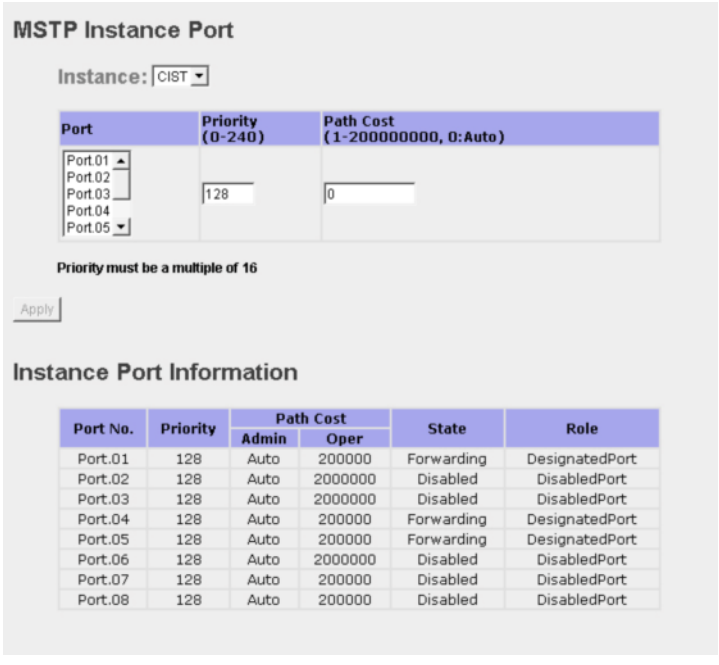
MSTP Instance



The following table describes the options available.

Option	Description
Instance	Set the instance from 1 to 15
State	Enable or disable the instance
VLANs	Set which VLAN will belong to which instance
Priority (0-61440)	A value used to identify the root bridge. The bridge with the lowest value has the highest priority and is selected as the root. If the value is changed, you must restart the switch. The value must be between 0 and 61440 and be a multiple of 4096.
Apply	Click "**Apply**" to save the changed configuration.

MSTP Instance Port



The following table describes the options available.

Option	Description
Instance	Set the instance's information except when CIST is selected.
Port	Select the port you want to configure.
Priority (0-240)	Select which port should be blocked by setting the LAN priority. The priority must be a value between 0 and 240 and be a multiple of 16.
Path Cost (1-200000000)	The cost of the path from the transmitting bridge to the receiving bridge at the specified port. The value must be between 1 and 200000000.
Apply	Click "**Apply**" to save the changed configuration.

3.4.7 VLAN

A Virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain and allows you to isolate network traffic. Only the members of the same VLAN will receive traffic from the other members. Creating a VLAN from a switch is the logical equivalent of separating a group of network devices. However, all the network devices are still physically plugged into the same switch.

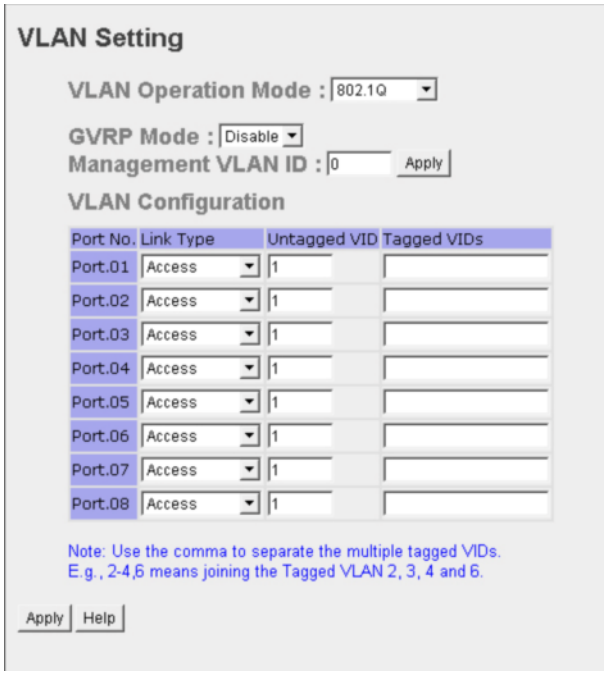
Satyrn M series switches support both port-based and 802.1Q (tagged-based) VLAN. The default configuration of VLAN operation mode is "802.1Q".

3.4.7.1 VLAN Setting

Tagged-based VLAN is an IEEE 802.1Q specification standard and permits the creation of a VLAN across devices from different switch vendors. IEEE 802.1Q VLAN inserts an identification tag into the Ethernet frames. Each tag contains a VLAN Identifier (VID) that identifies the VLAN to which it belongs.

You can create tag-based VLAN with GVRP protocol either enabled or disabled. There are 256 VLAN groups available. With 802.1Q VLAN enabled, all ports on the switch belong to the default VLAN with a VID number 1. The default VLAN cannot be deleted.

GVRP allows automatic VLAN configuration between the switch and the nodes. If the switch is connected to a GVRP-enabled device, when you send a GVRP request to the VID of a VLAN defined on the switch, the switch will automatically add that device to the existing VLAN.


VLAN Setting
VLAN Operation Mode : 802.1Q
GVRP Mode : Disable
Management VLAN ID : 0 Apply
VLAN Configuration
Port No. Link Type Untagged VID Tagged VIDs
Port.01 Access 1
Port.02 Access 1
Port.03 Access 1
Port.04 Access 1
Port.05 Access 1
Port.06 Access 1
Port.07 Access 1
Port.08 Access 1
Note: Use the comma to separate the multiple tagged VIDs.
E.g., 2-4,6 means joining the Tagged VLAN 2, 3, 4 and 6.
Apply Help

The following table describes the options available.

Option	Description
VLAN Operation Mode	Configures the VLAN Operation Mode: ○ Disable ○ Port Base ○ 802.1Q
GVRP Mode	Enable/Disable GVRP function.
Management VLAN ID	Management VLAN provides the network administrator with a secured VLAN to the management switch. Only the devices in the management VLAN can access the switch.
Link type	Configures the link type: ○ **Access Link:** single switch only, permits grouping ports by setting the same VID. ○ **Trunk Link:** extended application of **Access Link**, permits grouping ports by setting the same VID with 2 or more switches. ○ **Hybrid Link:** Both **Access Link** and **Trunk Link** are available. ○ **Hybrid(QinQ) Link:** enable QinQ mode permits the insertion of one more VLAN tag in a original VLAN frame.

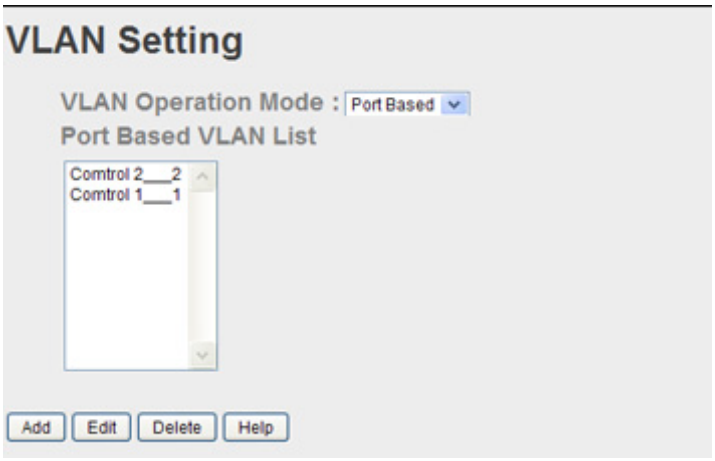
Untagged VID	Sets the port default VLAN ID for untagged devices that connect to the port. The range is 1 to 4094.
Tagged VIDs	Sets the tagged VIDs to carry different VLAN frames to other switch.
Apply	Click "**Apply**" to save the configuration.

3.4.7.2 VLAN Setting – Port Based

Traffic is forwarded to the member ports of the same VLAN group.

Initial Setup

Use this to set up the VLAN.

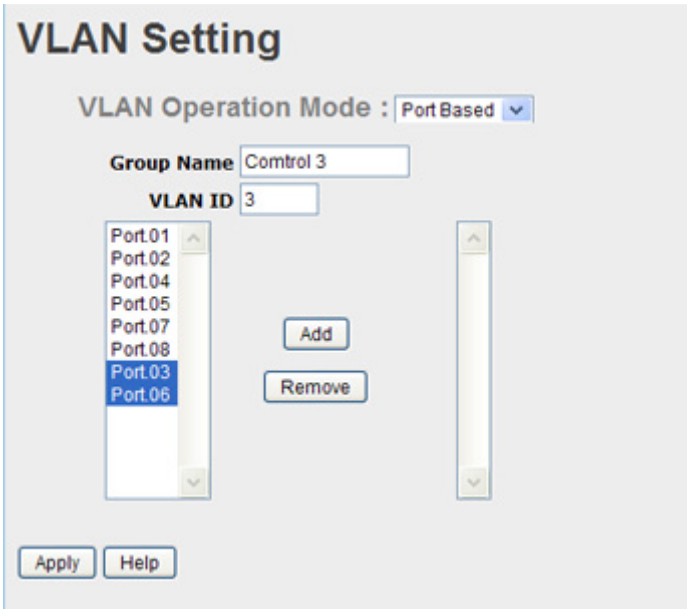


The following table describes the options available.

Option	Description
Add	Click "**add**" to enter the VLAN add interface.
Edit	Edit existing VLAN
Delete	Delete existing VLAN
Help	Show help file.

VLAN Interface

Use this for details of the VLAN.



The following table describes the options available.

Option	Description
Group Name	VLAN name.
VLAN ID	Specify the VLAN ID
Add	Select a port to join the VLAN group.
Remove	Remove a port from the VLAN group
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.7.3 VLAN Table

This table shows the results of the settings set in VLAN Setting.

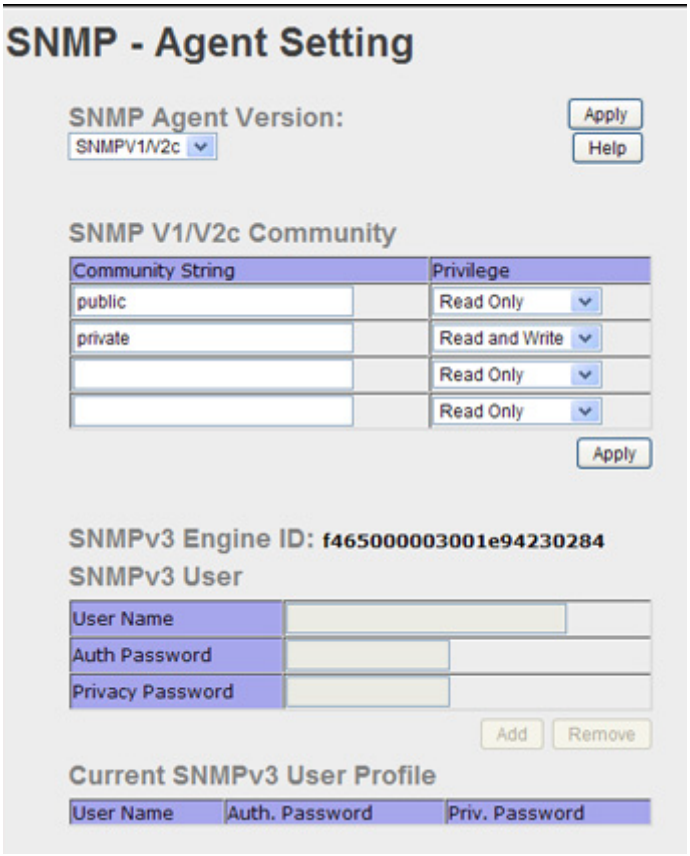
3.4.8 SNMP Configuration

Simple Network Management Protocol (SNMP) is the protocol developed to manage nodes (servers, workstations, routers, switches and hubs etc.) on an IP network. SNMP allows network administrators to manage network performance, find and solve network

problems, and accommodate for network growth. Network management systems are informed of problems by receiving traps or change notices from network devices that implement SNMP.

3.4.8.1 Agent Setting

You can set SNMP agent-related information with the Agent Setting function.



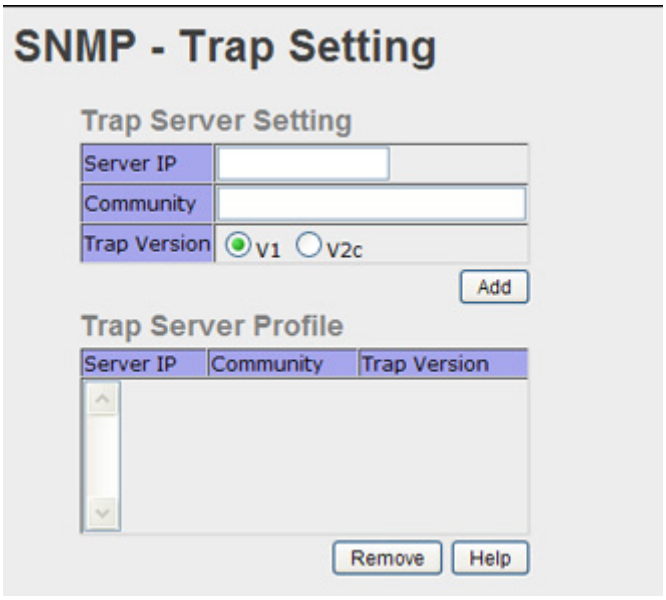
The following table describes the options available.

Option	Description
SNMP agent Version	Three SNMP versions are supported ○ SNMPv1 ○ SNMPv2c ○ SNMPv3 The SNMPv1 and SNMPv2c agents use a community string match for authentication, which means SNMP servers will access objects with read-only or read/write permissions with the community default string public/private. SNMPv3 requires an authentication level of MD5 or DES to encrypt data for enhanced data security.
SNMPv1/v2c Community	SNMP Community should be set for SNMPv1 or SNMPv2c. Four sets of "Community String/Privilege" are supported. Each Community String has a maximum of 32 characters. Leave this box empty to remove the Community String.
SNMPv3User	If SNMPv3 agent is selected, the SNMPv3 user profile should be set for authentication. The Username is required The Auth

	Password is encrypted by MD5 and the Privacy Password is encrypted by DES. There are a maximum 8 sets of SNMPv3 User and a maximum of 16 characters for both the Username and Password. When SNMPv3 agent is selected, you can: o Input SNMPv3 username only o Input SNMPv3 username and Auth Password o Input SNMPv3 username, Auth Password and Privacy Password, which can be different from Auth Password. To remove a current user profile o Enter SNMPv3 user name you want to remove o Click "**Remove**" button
Current SNMPv3 User Profile	Shows all the SNMPv3 user profiles.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.8.2 SNMP – Trap Setting

A trap manager is a management station that receives traps, which are system alerts generated by the switch. If no trap manager is defined, no traps will be sent. Create a trap manager by entering the IP address of the station and a community string. To define a management station as a trap manager, enter SNMP community strings and select the SNMP version.

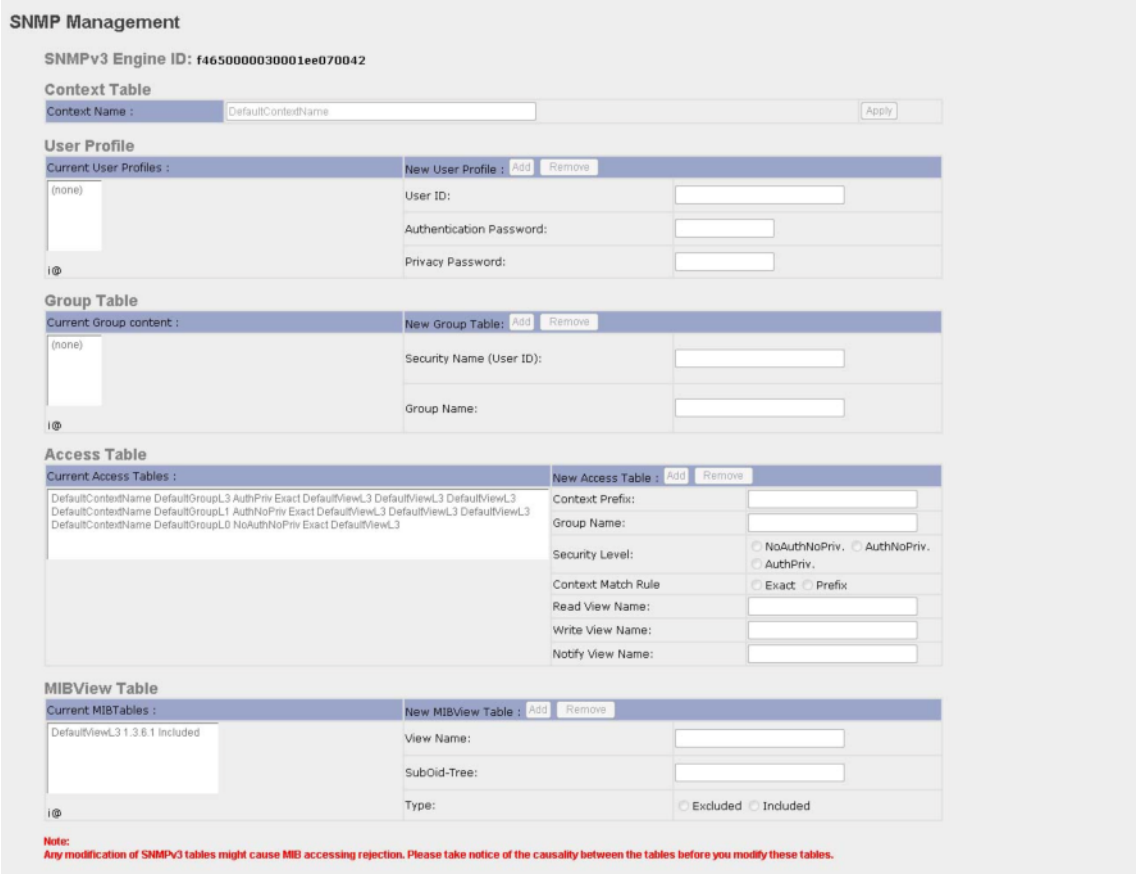


The following table describes the options available.

Option	Description
Server IP	The server IP address to receive traps
Community	Community for authentication
Trap Version	Trap Version supports V1 and V2c.
Add	Add trap server profile.
Remove	Remove trap server profile.
Help	Show help file.

3.4.8.3 SNMPv3 Setting

SNMPv3 adds security and remote configuration enhancements to SNMP. Use this section to set the SNMPv3 features.



The following table describes the options available.

Option	Description
Context Table	Configure SNMP v3 context table. Assign the context name of context table. Click "Apply" to change context name
User Table	1. Configure SNMP v3 user table.

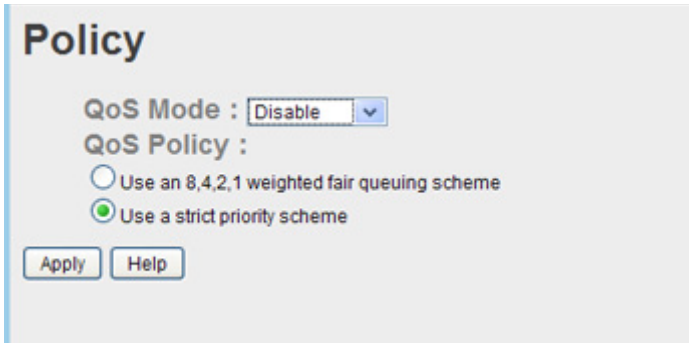
	2. **User ID:** set up the user name. 3. **Authentication Password:** set up the authentication password. 4. **Privacy Password:** set up the private password. 5. Click "Add" to add context name. 6. Click "Remove" to remove context name.
Group Table	1. Configure SNMP v3 group table. 2. **Security Name (User ID):** assign the user name that you have set up in user table. 3. **Group Name:** set up the group name. 4. Click "Add" to add context name. 5. Click "Remove" to remove context name.
Access Table	1. Configure SNMP v3 access table. 2. **Context Prefix:** set up the context name. 3. **Group Name:** set up the group. 4. **Security Level:** select the access level. 5. **Context Match Rule:** select the context match rule. 6. **Read View Name:** set up the read view. 7. **Write View Name:** set up the write view. 8. **Notify View Name:** set up the notify view. 9. Click "Add" to add context name. 10. Click "Remove" to remove context name.
MIBview Table	1. Configure MIB view table. 2. **ViewName:** set up the name. 3. **Sub-Oid Tree:** fill the Sub OID. 4. **Type:** select the type – exclude or included. 5. Click "Add" to add context name. 6. Click "Remove" to remove context name.
Help	Show help file.

3.4.9 Traffic Prioritisation

Traffic Prioritisation includes 3 modes: port base, 802.1p/COS, and TOS/DSCP. Using the traffic prioritisation function, you can classify the traffic into four classes for different network applications. The Satyrn M series supports 4 priority queues.

3.4.9.1 Traffic Prioritisation Policy

Select the traffic prioritisation policy using this function.

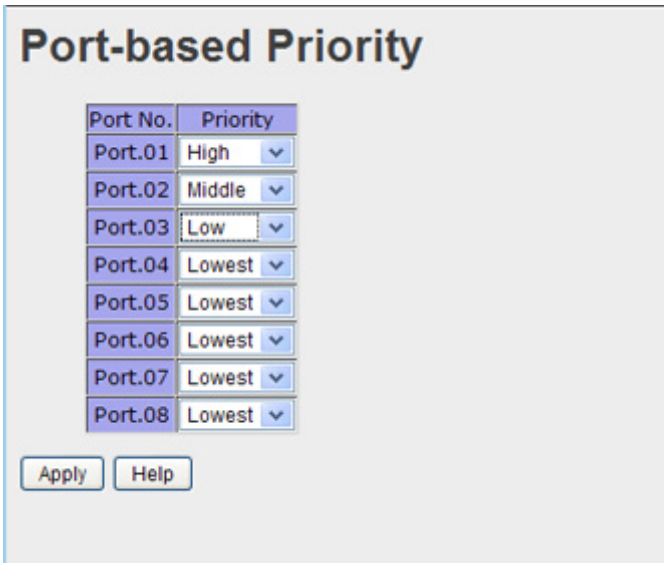


The following table describes the options available.

Option	Description
QoS Mode	○ **Port-base:** the output priority is determined by the entry port ○ **COS only:** the output priority is determined by COS only ○ **TOS only:** the output priority is determined by TOS only ○ **COS first:** the output priority is determined by COS and TOS, but COS first ○ **TOS first:** the output priority is determined by COS and TOS, but TOS first.
QoS policy	○ **Using the 8,4,2,1 weight fair queue scheme:** the output queues will follow a 8:4:2:1 ratio to transmit packets from the highest to the lowest queue. For example: 8 high queue packets, 4 middle queue packets, 2 low queue packets, and the one lowest queue packets are transmitted in one turn. ○ **Use the strict priority scheme:** the packets in the higher queue will always be transmitted first until the higher queue is empty.
Help	Show help file.
Apply	Click "**Apply**" to save the changed configuration.

3.4.9.2 Port Based Priority

Selecting port based priority will provide four levels of priority which can be set here.

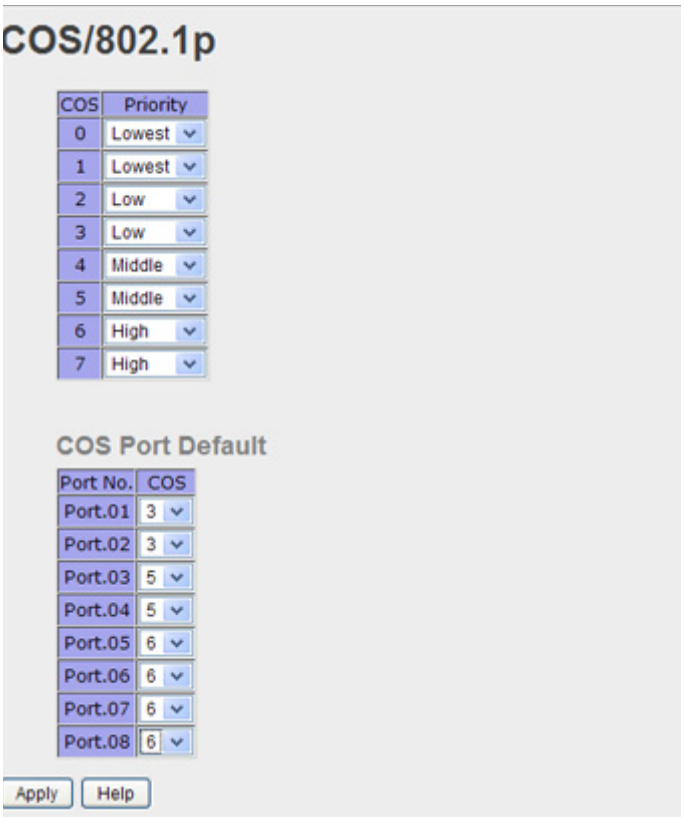


The following table describes the options available.

Option	Description
Port base Priority	Assign the Port with a priority queue. Four priority queues can be assigned ○ High ○ Middle ○ Low ○ Lowest
Help	Show help file.
Apply	Click "**Apply**" to activate the configurations.

3.4.9.3 COS Based Priority

COS (Class Of Service) is also known as 802.1p. It describes the way in which the output priority of a packet is determined by a user priority field in 802.1Q VLAN tag. Priority values range from 0 to 7. There are four COS priority queue settings: High, Middle, Low, and Lowest.

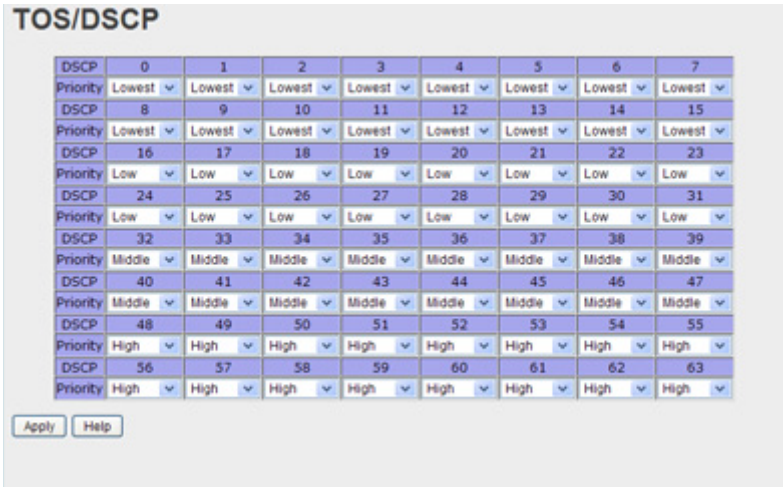


The following table describes the options available.

Option	Description
COS/802.1p	Four priority queues can be assigned ○ High ○ Middle ○ Low Lowest
COS Port Default	When an entry packet does not have a VLAN tag, a default priority value is assigned on the basis of the entry port.
Help	Show help file.
Apply	Click "**Apply**" to save the changed configuration.

3.4.9.4 TOS based Priority

TOS (Type of Service) is a field in the IP header of a packet. This TOS field is also used by Differentiated Services and is called the Differentiated Services Code Point (DSCP). The output priority of a packet can be determined by this field.


TOS/DSCP
DSCP 0 1 2 3 4 5 6 7
Priority Lowest Lowest Lowest Lowest Lowest Lowest Lowest Lowest
DSCP 8 9 10 11 12 13 14 15
Priority Lowest Lowest Lowest Lowest Lowest Lowest Lowest Lowest
DSCP 16 17 18 19 20 21 22 23
Priority Low Low Low Low Low Low Low Low
DSCP 24 25 26 27 28 29 30 31
Priority Low Low Low Low Low Low Low Low
DSCP 32 33 34 35 36 37 38 39
Priority Middle Middle Middle Middle Middle Middle Middle Middle
DSCP 40 41 42 43 44 45 46 47
Priority Middle Middle Middle Middle Middle Middle Middle Middle
DSCP 48 49 50 51 52 53 54 55
Priority High High High High High High High High
DSCP 56 57 58 59 60 61 62 63
Priority High High High High High High High High
Apply
Help

The following table describes the options available.

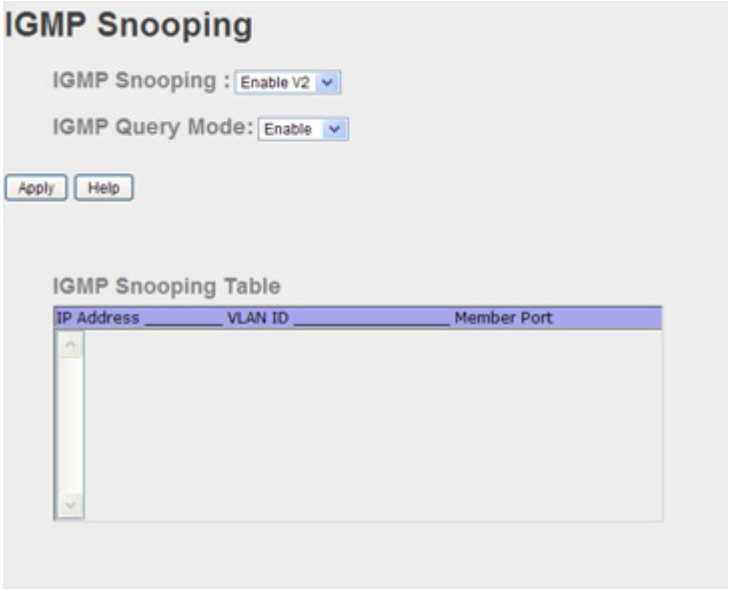
Option	Description
TOS/DSCP	The priority values range from 0 to 63. There are four DSCP priority queues: High, Middle, Low, and Lowest.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.10 Multicast

3.4.10.1 IGMP Snooping

Internet Group Management Protocol (IGMP) is used by IP hosts to register their dynamic multicast group membership. IGMP has 3 versions, IGMP v1, v2 and v3. Please refer to RFC 1112, 2236 and 3376. IGMP Snooping improves the performance of networks that carry multicast traffic. It provides the ability to prune multicast traffic so that it travels only to the end destinations that require that traffic and reduces the overall amount of traffic on the Ethernet LAN.

Only one switch should be selected to carry out queries in an IGMP application.

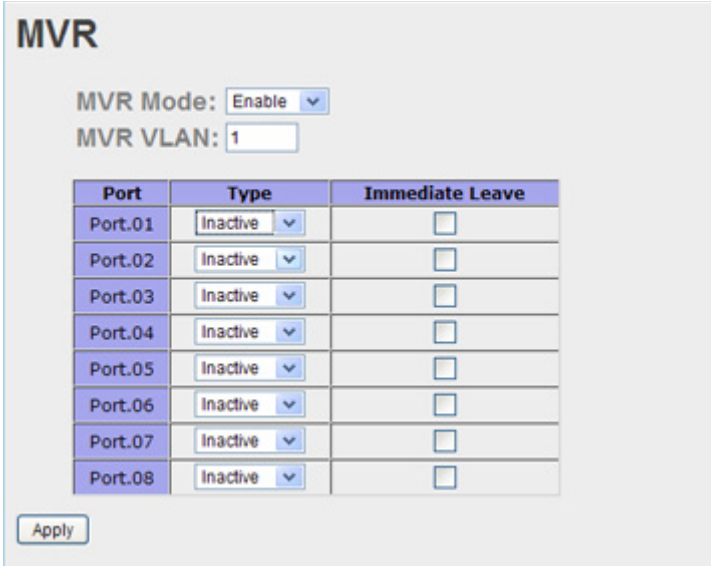


The following table describes the options available.

Option	Description
IGMP Snooping	Enable/Disable IGMP snooping.
IGMP Query Mode	Identifies whether this Switch will make IGMP queries. In "Auto" mode the Switch with the lowest IP address will make queries.
IGMP Snooping Table	Show current IP multicast list
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.10.2 Multicast VLAN Registration

Multicast VLAN Registration (MVR) allows a port to be a receiver or source of a multicast stream on the network-wide multicast VLAN. A single multicast VLAN can be shared in the network while subscribers remain in separate VLANs. MVR allows multicast streams to be sent to the multicast VLAN with certain VLANs excluded for bandwidth and security reasons.

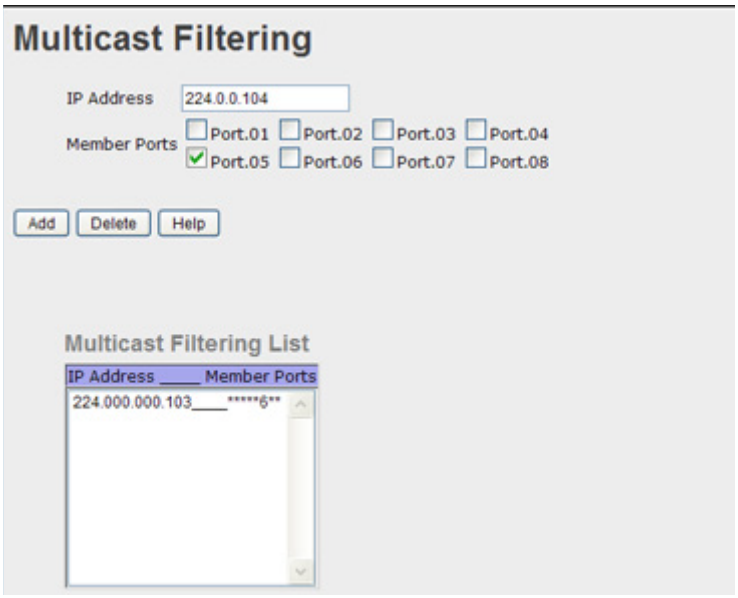


The following table describes the options available.

Option	Description
MVR Mode	Enable or disable this feature
MVR VLAN	The VLAN number
Port	The port connecting to the VLAN
Type	○ Inactive – MVR not in use ○ Source – Multicast source ○ Receiver – Port received Multicast
Apply	Show help file.

3.4.10.3 Multicast Filter

Multicast filtering is the system by which end stations will only receive multicast traffic if they are registered to join specific multicast groups. With multicast filtering, network devices will only forward multicast traffic to the ports that are connected to the registered end stations.



The following table describes the options available.

Option	Description
IP Address	Assign a multicast group IP address in the range of 224.0.0.0 ~ 239.255.255.255
Member Ports	Tick the check box beside the port number to include them as the member ports in the specific multicast group IP address.
Add	Show current IP multicast list
Delete	Delete an entry from table
Help	Show help file.

3.4.11 Security

The Satyrn M Series products have up to six useful functions (depending on the switch) which can enhance the security of the switch. These are Access Control List, IP Security, Port Security, MAC Blacklist, MAC Address Aging, and 802.1x protocol.

3.4.11.1 IP Security

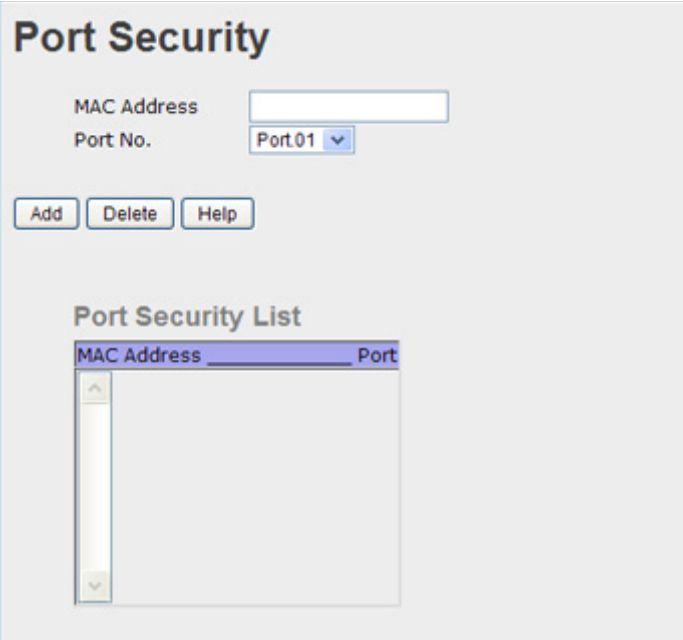
Using IP security you can enable or disable remote management using WEB, Telnet, or SNMP. IP security can also restrict remote management to a list of specific IP addresses. Only these secure IP addresses are permitted to remotely manage the switch.

The following table describes the options available.

Option	Description
IP security MODE	Enable or Disable the IP security function.
Enable WEB Management	Check the box to enable WEB Management.
Enable Telnet Management	Check the box to enable Telnet Management.
Enable SNMP Management	Check the box to enable MPSN Management.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.11.2 Port Security

Port Security allows the addition of static MAC addresses to a hardware forwarding database so that if Port Security is enabled on the **Port Control** page, only the frames with MAC addresses in this list will be forwarded, otherwise they will be discarded.

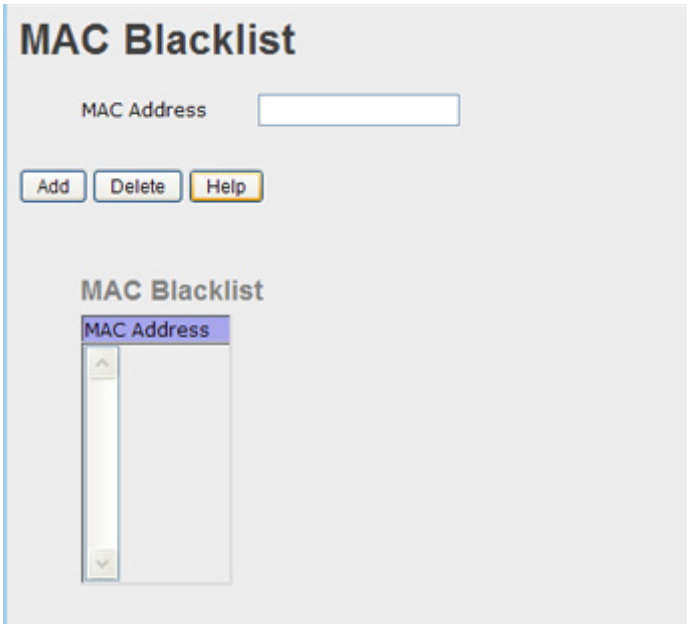


The following table describes the options available.

Option	Description
MAC Address	Assign MAC Address to a specific port.
Port No.	Select the switch port.
Add	Add a MAC Address and port information.
Delete	Delete the entry.
Help	Show help file.

3.4.11.3 MAC Blacklist

MAC Blacklist can prevent traffic being forwarding to a list of specified MAC addresses. Any frames forwarded to MAC addresses in this list will be discarded, so the blacklisted devices will not receive any frames.



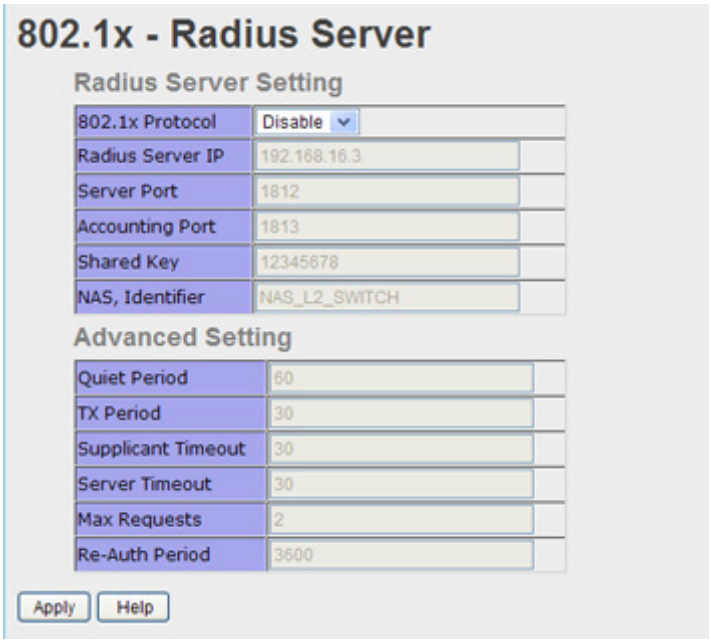
The following table describes the options available.

Option	Description
MAC Address	Enter MAC Address to add to the MAC Blacklist.
Port No.	Select the switch port.
Add	Add a device to the Blacklist table.
Delete	Delete the entry.
Help	Show help file.

3.4.11.4 802.1x

802.1x makes use of the physical access characteristics of IEEE802 LAN infrastructures in order to provide authentication and authorization of devices attached to a LAN port. Please refer to IEEE 802.1X - Port Based Network Access Control.

802.1x - Radius Server

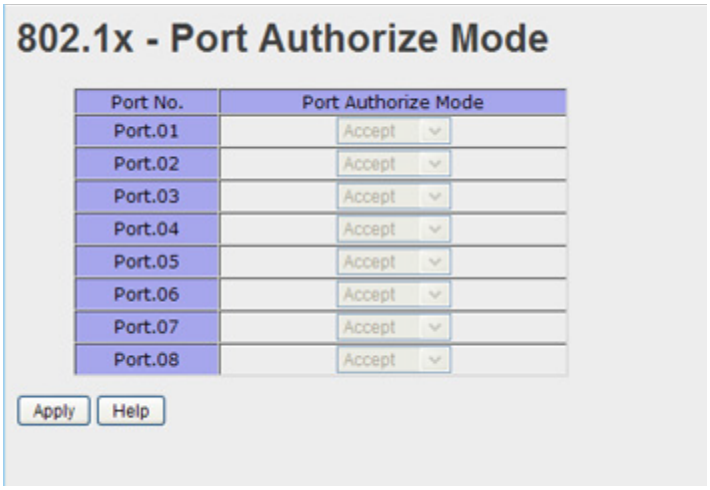


The following table describes the options available.

Option	Description
Radius Server Setting	
Radius Server IP	The IP address of the authentication server.
Server port	The UDP port number used by the authentication server to authenticate.
Account port	The UDP destination port for accounting requests to the specified Radius Server.
Shared Key	The key shared between this switch and authentication server.
NAS, Identifier	The string used to identify this switch.
Advanced Setting	
Quiet Period	The time interval between the last authentication failure and the start of the next authentication attempt.
Tx Period	The time that the switch must wait for response to an EAP request/identity frame from the client before resending the request.
Supplicant Timeout	The period of time the switch waits for a supplicant response to an EAP request.
Server Timeout	The period of time the switch waits for a Radius server response to an authentication request.
Max Requests	The maximum number of times to retry sending packets to the supplicant.
Re-Auth Period	The period of time after which connected clients must be re-authenticated.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

802.1x-Port Authorized Mode

Use this section to set the 802.1x authorized mode for each port.

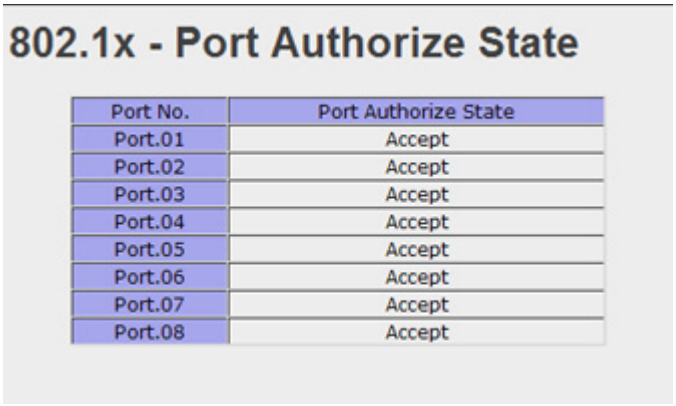


The following table describes the options available.

Label	Description
Port Authorized Mode	○ **Reject:** force this port to be unauthorized ○ **Accept:** force this port to be authorized ○ **Authorize:** the state of this port is determined by the outcome of the 802.1x authentication. ○ **Disable:** this port will not participate in 802.1x.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

802.1x-Port Authorized State

This section shows 802.1x port authorized state set in the previous section.

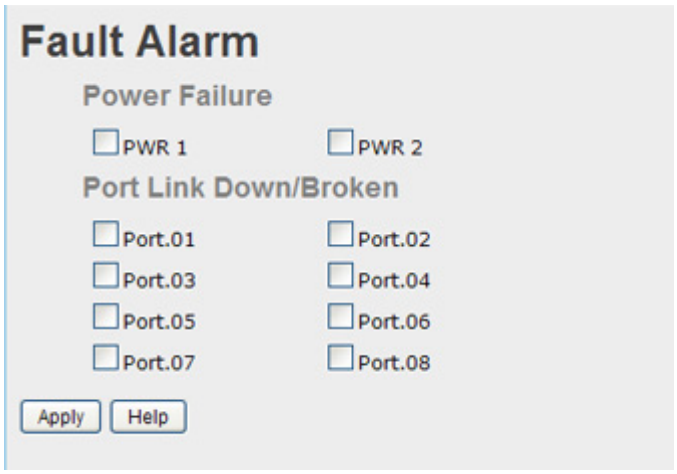


3.4.12 Warning

The warning function is very important for managing a switch. You can receive warnings by SYSLOG, email, and Fault Relay. This is used for monitoring the switch status on remote locations. When problems occur, the warning message will be sent to your appointed server, email, or relay fault on the switch panel.

3.4.12.1 Fault Alarm

When any selected fault event has taken place, the Fault LED in the switch panel will light up and the electric relay will signal at the same time.

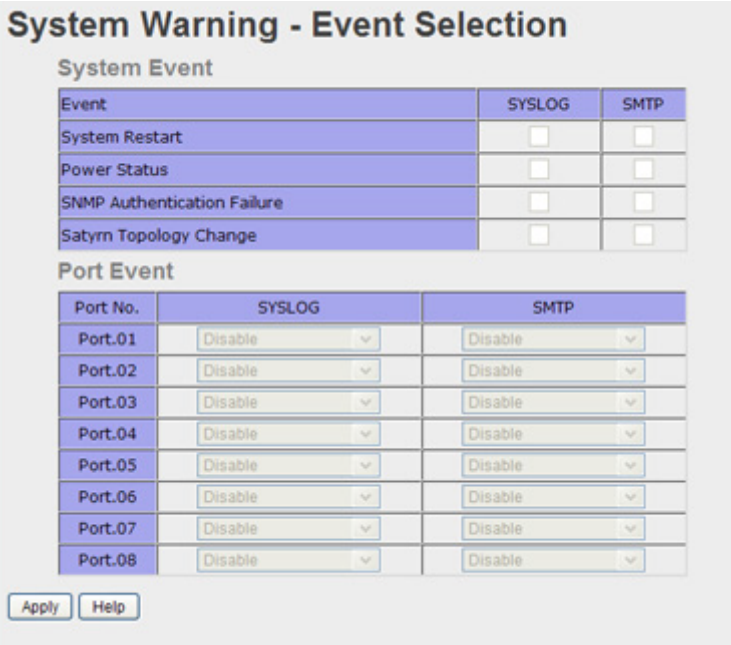


The following table describes the options available.

Option	Description
Power Failure	Check the box to monitor PWR 1 or PWR 2.
Port Link Down/Broken	Check the box to monitor port 1 to port 8.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.12.2 Event Selection

SYSLOG and SMTP are the two warning methods that are supported by the system. Check the corresponding box to enable the system event warning method you wish to activate. Please note that the checkbox cannot be checked when SYSLOG or SMTP are disabled.

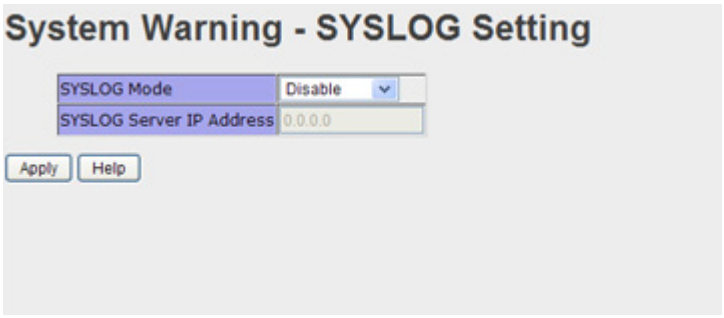


The following table describes the options available.

Option	Description
System Event	
System Cold Start	Alert at system restart
Power Status	Alert at power up or down
SNMP Authentication Failure	Alert at SNMP authentication failure.
O-Ring Topology Change	Alert when O-Ring topology changes.
Port Event **SYSLOG / SMTP event**	○ Disable ○ Link Up ○ Link Down ○ Link Up & Link Down
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.12.3 SYSLOG Setting

The SYSLOG is a protocol to transmit event notification messages across networks. Please refer to RFC 3164 - The BSD SYSLOG Protocol for more detail.

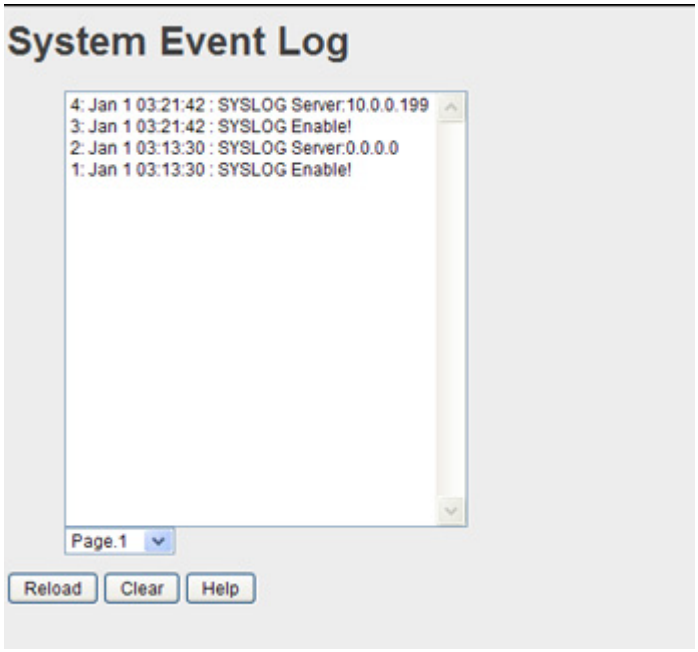


The following table shows the options available.

Option	Description
SYSLOG Mode	○ **Disable:** disable SYSLOG ○ **Client Only:** log to local system ○ **Server Only:** log to a remote SYSLOG server. ○ **Both:** log to both local and remote servers.
SYSLOG Server IP Address	The remote SYSLOG Server IP address.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.12.4 System Event Log

If the system log client is enabled, the system event logs will appear in this table.

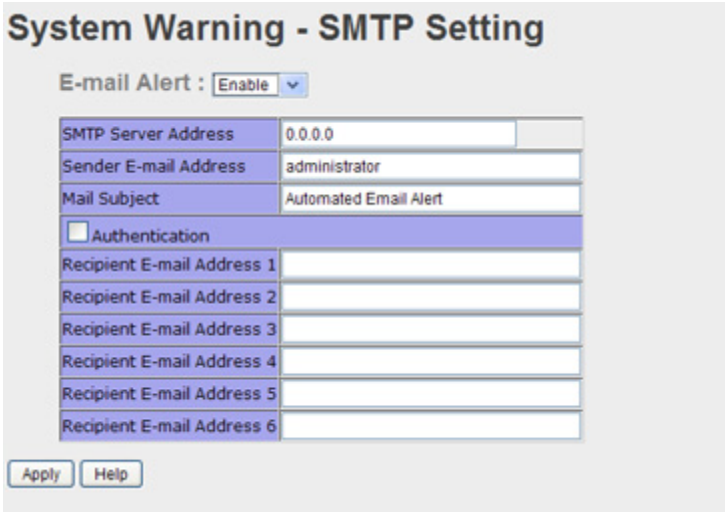


The following table describes the options available.

Option	Description
Page	Select the log page.
Reload	Refresh this page and display the newest event logs.
Clear	Clear the log.
Help	Show help file.

3.4.12.5 SMTP Setting

SMTP is a protocol for email transmission across the Internet. Please refer to RFC 821 - Simple Mail Transfer Protocol for details.



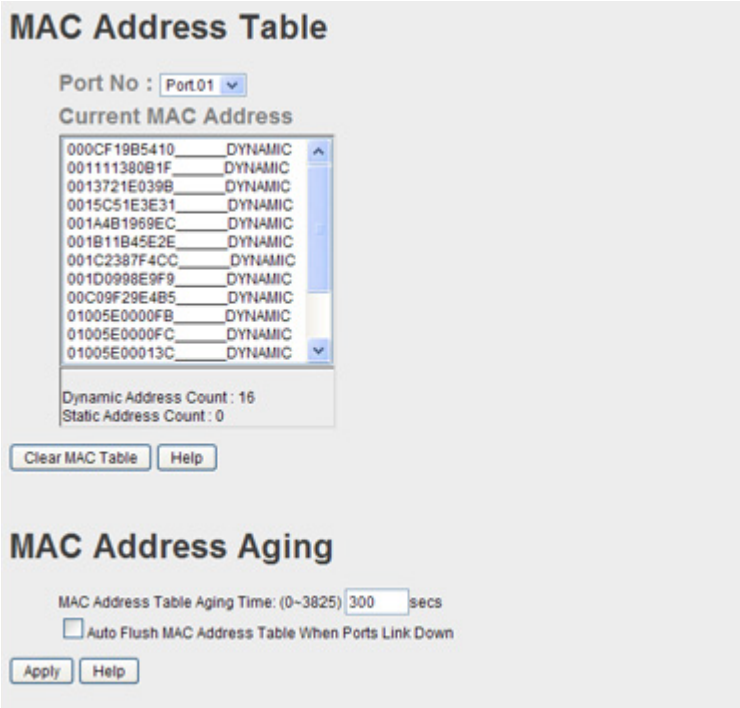
The following table shows the options available.

Option	Description
E-mail Alarm	Enable or Disable system warning events sent by email.
Sender E-mail Address	The SMTP server IP address
Mail Subject	The Subject of the mail
Authentication	○ **Username:** the authentication username ○ **Password:** the authentication password ○ **Confirm Password:** re-enter password.
Recipient E-mail Address	The recipient's E-mail address. Up to 6 recipients can be defined.
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.13 Monitoring and Diagnostics

3.4.13.1 MAC Address Table

The MAC Address Table is a filtering database that supports queries by the Forwarding Process as to whether a frame received by a specified port with a specified MAC address is to be forwarded through a specific transmission port. Refer to IEEE 802.1 D Sections 7.9 for further details.



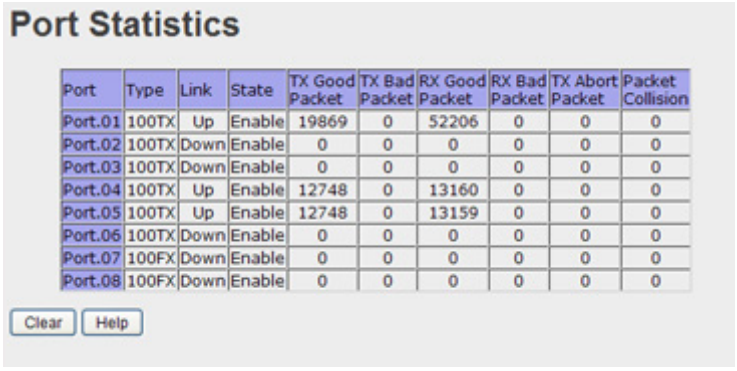
You can set the MAC Address aging timer and when the time expires, unused MAC addresses will be cleared from the MAC table.

The following table describes the options available.

Option	Description
Port No.	Show all MAC addresses mapped to a selected port
Clear MAC Table	Clear all MAC addresses in table
Help	Show help file.
MAC Address Table Aging Time	Sets the aging time for the MAC table in seconds. Value must be between 0 and 3825. The default setting is 300 (5 minutes).
Auto Flush MAC Address Table When ports Link Down	Enable this function to flush the MAC addresses when the ports Link Down
Apply	Click "**Apply**" to save the changed configuration.
Help	Show help file.

3.4.13.2 Port Statistics

Port statistics show several statistics counters for all ports. This could prove useful for initial diagnostics of any problem.


Port Statistics
Port Type Link State TX Good Packet TX Bad Packet RX Good Packet RX Bad Packet TX Abort Packet Packet Collision
Port.01 100TX Up Enable 19869 0 52206 0 0 0
Port.02 100TX Down Enable 0 0 0 0 0 0
Port.03 100TX Down Enable 0 0 0 0 0 0
Port.04 100TX Up Enable 12748 0 13160 0 0 0
Port.05 100TX Up Enable 12748 0 13159 0 0 0
Port.06 100TX Down Enable 0 0 0 0 0 0
Port.07 100FX Down Enable 0 0 0 0 0 0
Port.08 100FX Down Enable 0 0 0 0 0 0
Clear
Help

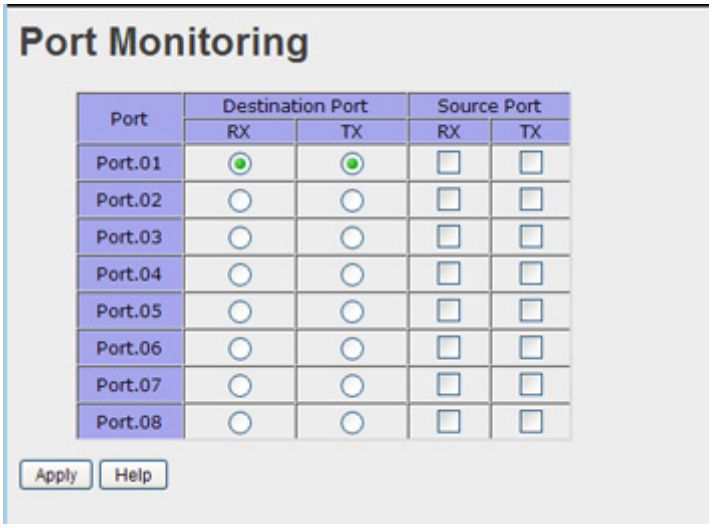
The following table describes the options available.

Option	Description
Type	The port speed and media type.
Link	The port link status.
State	Shows ports enabled or disabled, set by Port Control
TX Good Packet	The number of good packets sent by this port.
TX Bad Packet	The number of bad packets sent by this port including undersize (less than 64 octets), oversize, CRC Align errors, fragments and jabber.
RX Good Packet	The number of good packets received by this port.
RX Bad Packet	The number of bad packets received by this port including undersize (less than 64 octets), oversize, CRC Align errors, fragments and jabber.
TX Abort Packet	The number of packets aborted by this port whilst transmitting.
Packet Collision	The number of times a collision was detected by this port
Packet Dropped	The number of dropped packets
RX Bcast Packet	The number of broadcast packets
Rx Mcast packet	The number of multicast packets
Clear	Clear all counters.
Help	Show help file.

A subset of this information can be obtained from the initial System Information page and clicking on the appropriate port.

3.4.13.3 Port Monitoring

The port monitoring function supports TX only, RX only, and both TX/RX monitoring. TX monitoring sends any data that leaves from the checked TX source ports to a selected TX destination port as well. RX monitoring sends any data that arrives at a checked RX source ports to a selected RX destination port as well as sending the frame where on to its normal destination. If all source ports are unchecked no port monitoring will take place.

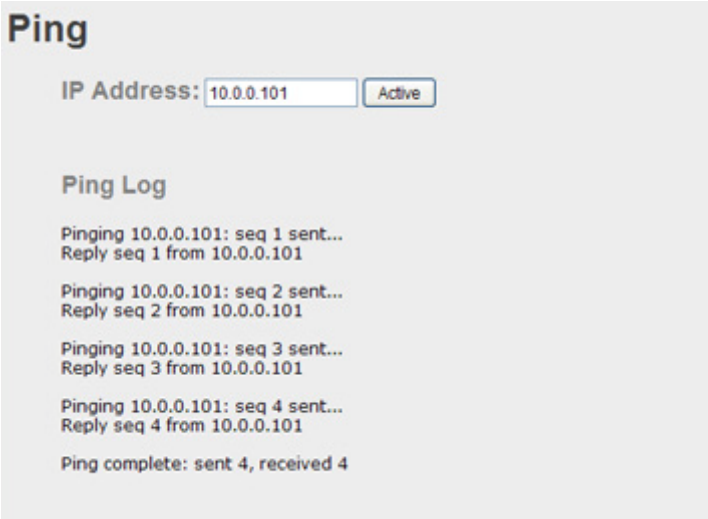


The following table describes the options available.

Option	Description
Destination Port	This port will receive a copied frame from the source port for monitoring purpose.
Source Port	The port will be monitored. Check the TX or RX box to monitor it.
TX	Transmitted frames.
RX	Received frames.
Apply	Click "**Apply**" to save the changed configuration.
Clear	Clear all checked boxes. This disables the port monitoring function.
Help	Show help file.

3.4.13.4 Ping

The Ping function allows the switch to send ICMP packets in order to detect the remote nodes.


Ping
IP Address: 10.0.0.101
Active
Ping Log
Pinging 10.0.0.101: seq 1 sent...
Reply seq 1 from 10.0.0.101
Pinging 10.0.0.101: seq 2 sent...
Reply seq 2 from 10.0.0.101
Pinging 10.0.0.101: seq 3 sent...
Reply seq 3 from 10.0.0.101
Pinging 10.0.0.101: seq 4 sent...
Reply seq 4 from 10.0.0.101
Ping complete: sent 4, received 4

The following table describes the options available.

Option	Description
IP Address	Enter the IP address that you want to detect.
Active	Click the Active button to send ICMP packets

3.4.14 Save Configuration

If any configuration changes, "**Save Configuration**" should be clicked to save the current configuration data to the permanent flash memory. Otherwise, the modified configuration will be lost when power is turned off or the system is reset.

The following table describes the options available.

Label	Description
Save	Save all current configurations.
Help	Show help file.

4 Satyrn Topology

4.1 About Satyrn Topology

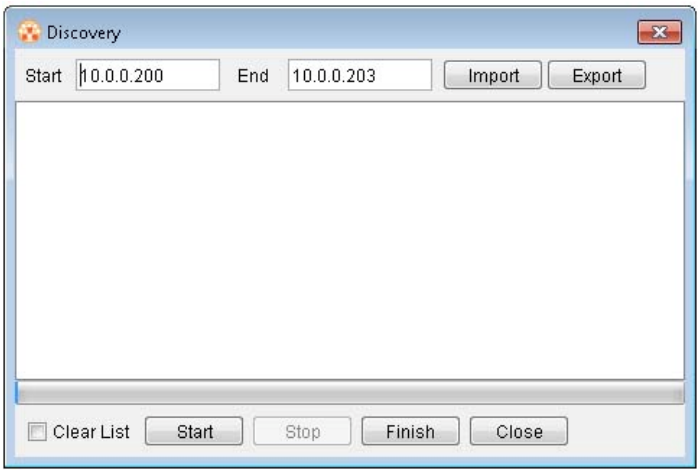
Satyrn Topology is a powerful utility used to manage the network topology. It displays the network's structure in a graphic and easy-to-understand manner. Network administrators can make use of Satyrn Topology to monitor the devices connected to the network as well as the current status of the network links.

4.2 Starting Satyrn Topology

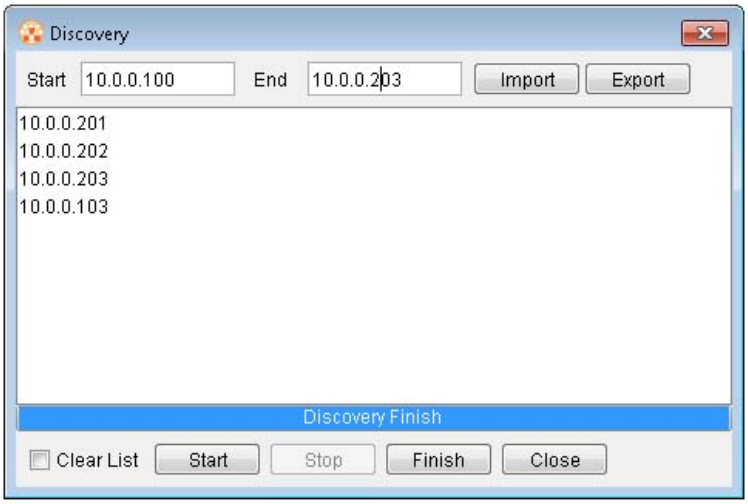
From the Windows Start Menu select Satyrn View and then Satyrn Topology.

If you are using Windows 7, right click on Satyrn Topology and then select 'Run as Administrator'.

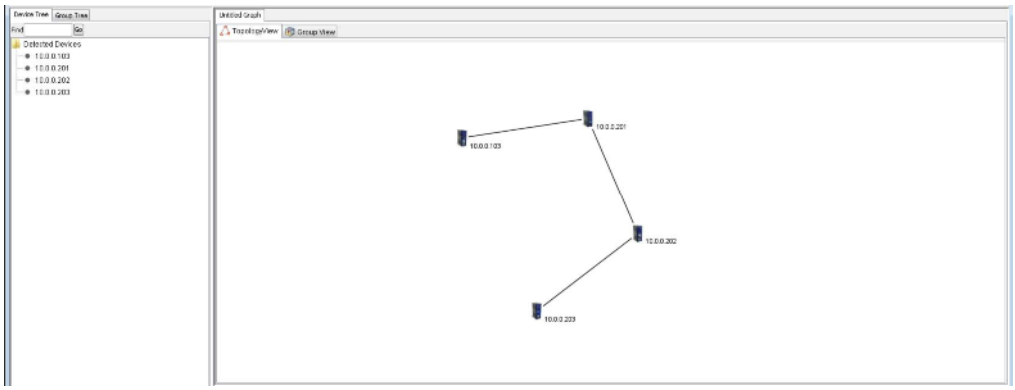
When Satyrn Topology first opens you will be prompted to search (Discover) the network.



Begin by entering the full range of the IP addresses of the devices connected to the network in the Start and End boxes, then click the Start button. Satyrn Topology will begin to scan the network in search of devices in the specified IP range. When the scan is complete, a list of the IP addresses found will be displayed.

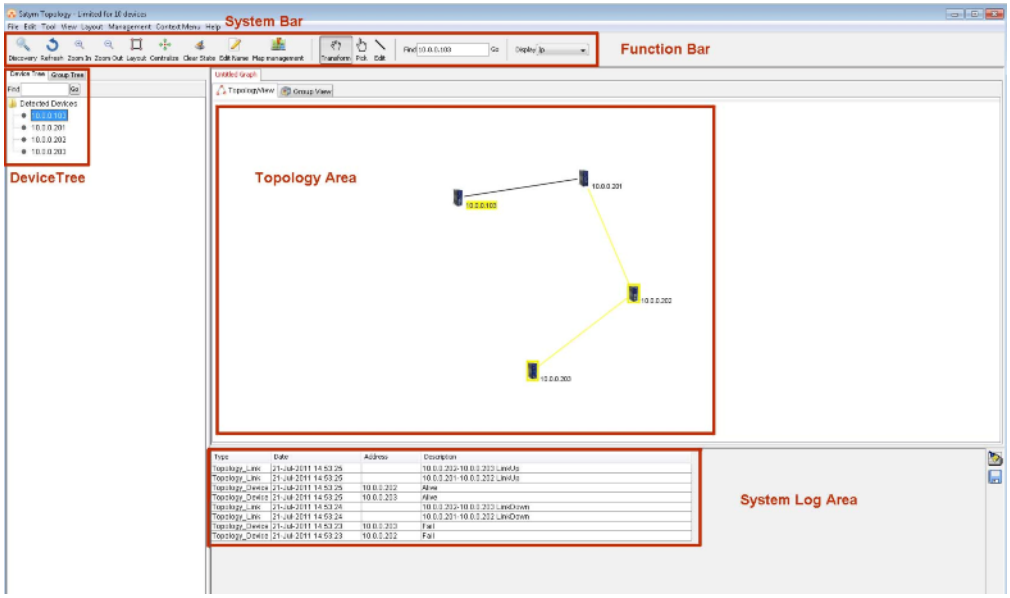


Click the Finish button to see a graphical plan of the network showing the devices found.



4.3 Satyrn Topology Main Interface

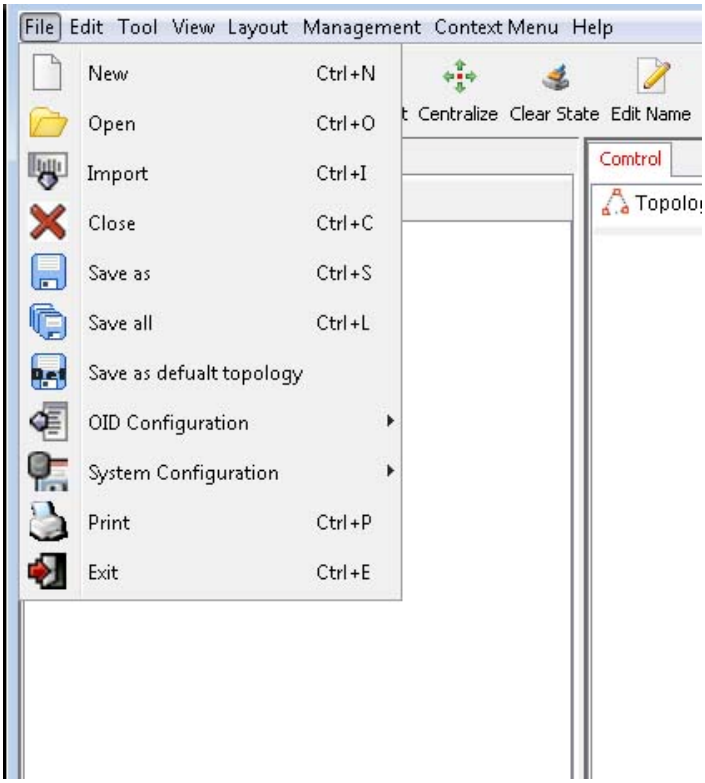
Satyrn Topology consists of six primary elements: the System Bar, the Function Bar, the Device Tree, the Topology Area, the System Log Area, and the Group Table



4.3.1 System Bar

4.3.1.1 File

Select File to show the File menu.



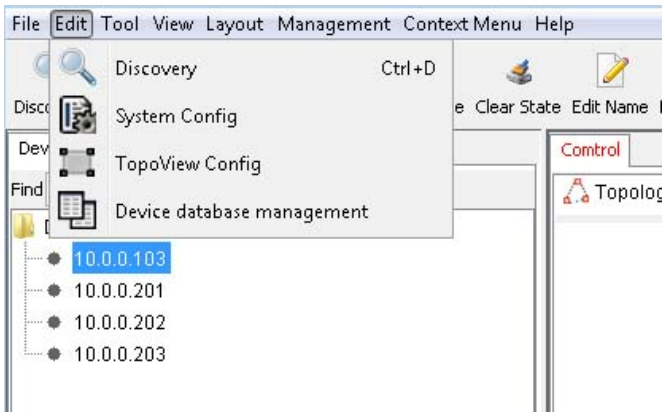
The following table describes the options available.

Option	Hotkey	Description
New	Ctrl + N	Opens a new network configuration.
Open	Ctrl + O	Loads a previously saved network configuration.
Import	Ctrl + I	Loads a previously saved network configuration and incorporate it into the current Group Table.
Close	Ctrl + C	Closes the current configuration.
Save as	Ctrl + S	Saves the current configuration as a *.GML file.
Save all	Ctrl + L	Saves all open configurations as a *.GML file.

Save as defualt topology	N/A	Saves the current network configuration as the default network. When Satyrn Topology next launches, this configuration will be displayed at start.
Load OID Config File	N/A	Loads OID configuration file.(OIDMandialog must be enabled.)
Save OID Config File	N/A	Saves OID Config File. (OIDMandialog must be enabled.)
Save Current Setting	N/A	Saves the current configuration of Satyrn Topology.
Default System Configuration	N/A	Restore Satyrn Topology to the default system configuration settings.
Print	Ctrl + P	Prints the current topology
Exit	Ctrl + E	Closes Satyrn Topology

4.3.1.2 Edit

Select Edit to show the Task menu.

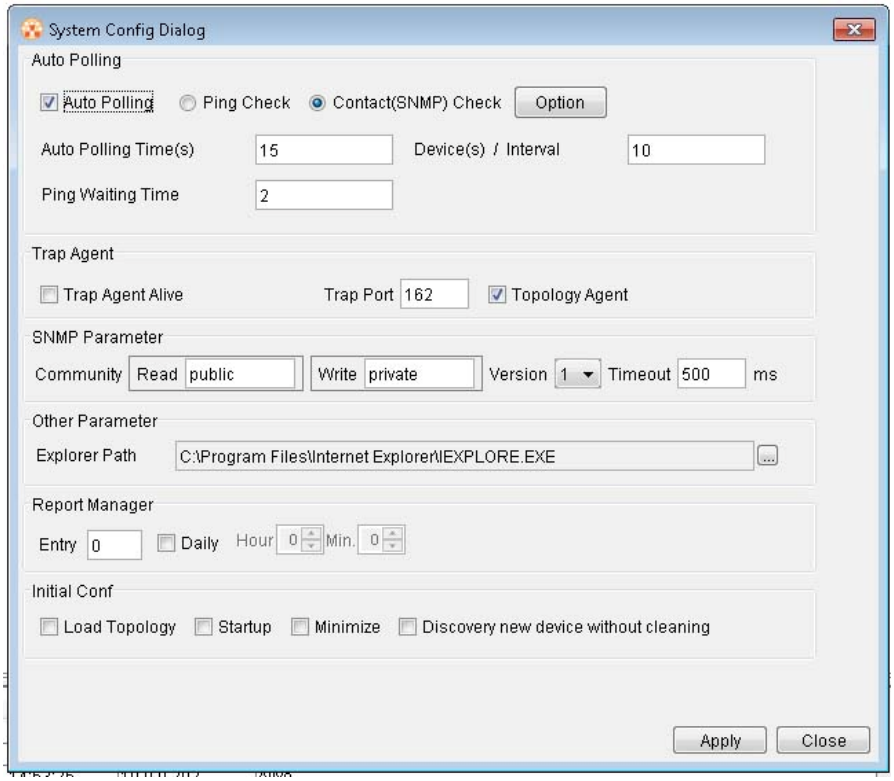


Discovery (Ctrl +D)

Clicking on Discovery finds all the switches located on the same subnet. Satyrn Topology will display all the switches it discovers in the device list, and display the network topology in a graphical format in the topology area. Satyrn Topology utilises LLDP and SNMP to locate devices connected to the network.

System Config

Clicking on 'System Config' opens up the following dialogue box.



The following table describes the options available.

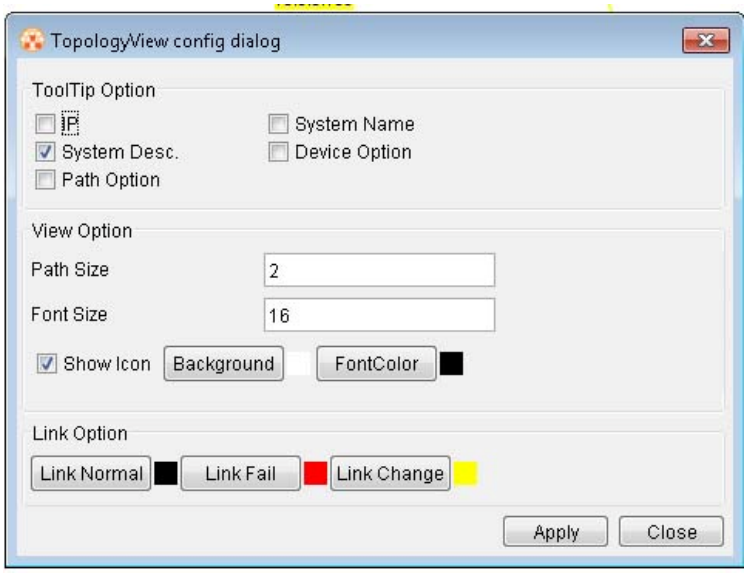
Option	Description
Auto Polling	Enable or disable Auto Polling function.
Ping Check	Use ping for auto polling.
Contact(SNMP) Check	Use SNMP packet for auto polling.
Auto Polling Time	The auto polling timer configuration.
Device(s)/Interval	Settings for auto polling schedule. To poll all devices every time, set this value to zero
Ping Waiting Time	The time to wait for ICMP reply packets to be received when ping is used for auto polling.
Trap Agent Alive	Enable trap agent to receive SNMP traps.
Trap Port	Specifies the port used by the Trap Agent.

Topology agent	Enable / Disable topology agent function
SNMP Community	Configure SNMP's Community and Version. Satyrn Topology will use these parameters to find devices connected to the network.
Version	Select SNMP version(V1, or V2)
Time out	SNMP wait time. The amount of time to wait before announcing a lost contact if a connected device does not respond to an SNMP check.
Explorer Path	Specify the browser path.
Report Manage	Auto-save system log area information to an Excel file
Entry	The number of system logs before the information is saved to an Excel file.
Daily	Automatically saves system log information to an Excel file at a specified time.
Load Topology	Open the default network topology information
Startup	Start Satyrn Topology at Windows launch.
Minimize	Start Satyrn Topology in a minimized window.

Note If there are third party SNMP software utilities running the computer, this may prevent Topology View from receiving SNMP error messages. Please shut down these applications, because they will occupy the required SNMP port.

Topoview Config

Clicking on 'TopoView Config' opens up the following dialogue box.

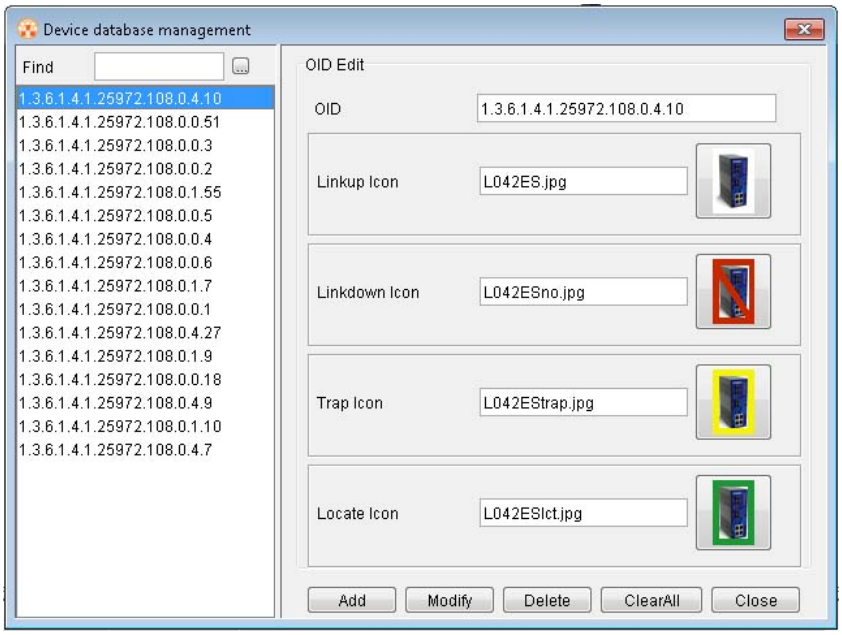


The following table describes the options available.

Option	Description
ToolTip Option	Select to display switch information.
View Option	Set path size, font size and icon colours.
Link Option	Set link status colours.

OID Management Dialogue

Clicking on 'OID Management Dialog' opens up the following dialogue box and permits the customisation of a device icon. Place the designated image file in the folder "c: \Program Files\Satyrn-View\rec\device", then select the file to assign the icon to the device.



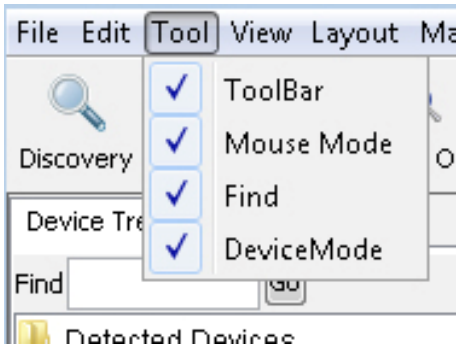
The following table describes the options available.

Label	Description
Left Table	Select to customise the device icon.
OID	The device to be customised

Linkup Icon	Select the image file for the Linkup Icon
Linkdown Icon	Select the image file for the Linkdown Icon.
Trap Icon	Select the image file for the Trap Icon
Locate Icon	Select the image file for the Locate Icon

4.3.1.3 Tool

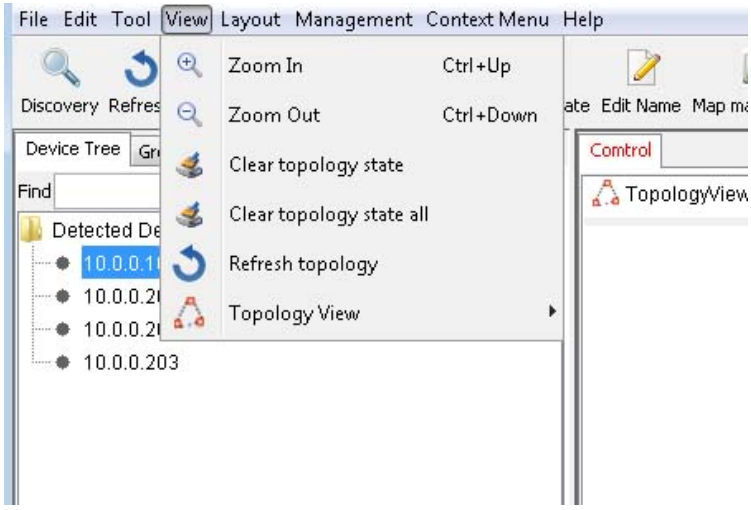
The Tool menu allows you to select whether various functions appear in the Function Bar.



Checking the various functions will ensure they are displayed in the Function Bar. Unchecked, the appropriate function will not be displayed in the Function Bar.

4.3.1.4 View

The View menu permits the examination of the network topology through different perspectives.



The following table describes the icons available.

Icon	Hotkey	Description
Zoom In	Ctrl + up	Zoom in on the network.
Zoom Out	Ctrl + down	Zoom out of the network.
Clear topology state	N/A	Clear the current Topology Area.
Clear topology state all	N/A	Clear the Topology Area for all groups.
Refresh topology	N/A	Refresh the network topology.
Topology View	N/A	Allows you to manipulate the network view.

4.3.1.5 Layout

There are a number of ways of displaying networks .and Satyrn Topology provides three of the popular network layouts which can aid in better understanding and constructing network topologies.

FR Layout

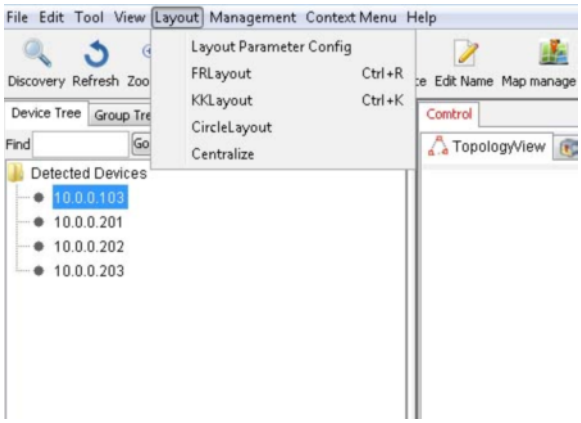
Fruchterman-Rheingold - This is a force-directed algorithm with the position of the switches in the layout set by forces pulling switches together and pushing them apart. Attractive forces occur between adjacent switches only and repulsive forces occur between every pair of vertices. The default is set at 0.75.

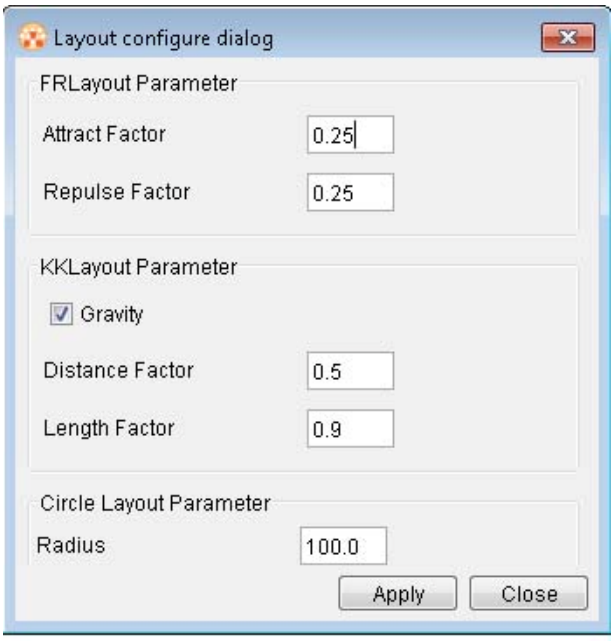
KK Layout

Kamada Kawai – This layout assumes that the position of the various switches is determined by imaginary springs connecting them. The position of the switches is determined by minimizing the energy within that system. Prior to invoking this algorithm, it is recommended that the vertices be placed along the vertices of a regular n-sided polygon via a Circle Layout.

Circle Layout

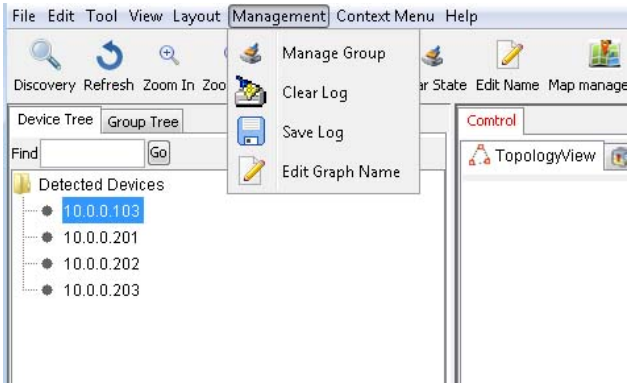
Using this layout the network will expand, depending on the number of switches, forming a circle. The switches will be placed around an imaginary centre with most of the links crossing near that centre.



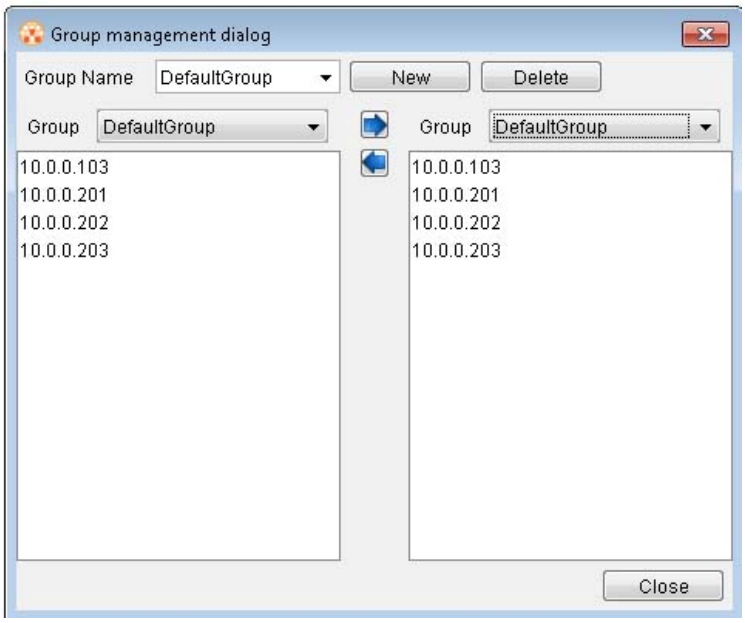


4.3.1.6 Management

Select Management to show the various management options.



Clicking on Manage Group calls up the following screen and allows you to manage a group of Switches on the network.



The following table describes the options available.

Option	Description
Group Name	Define group name
New	Add new group
Delete	Delete group
Rename	Rename group
Group	Shows the list of IP addresses for devices in the group.

Creating a new group

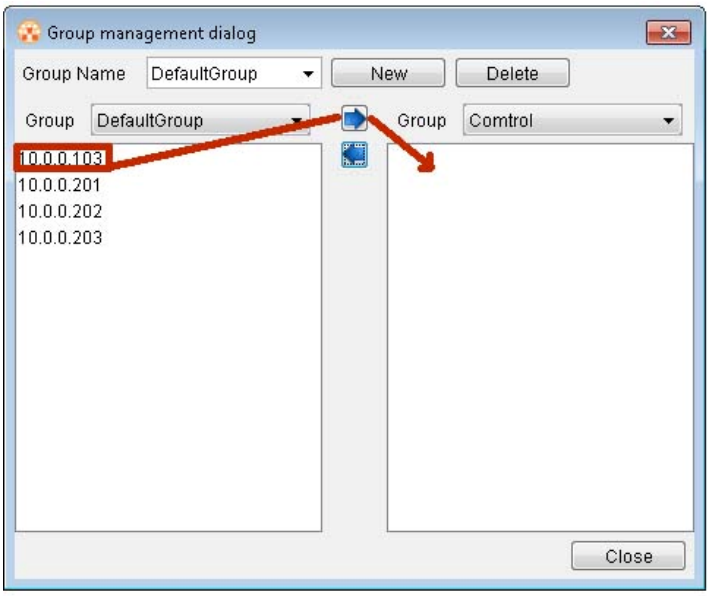
Enter the new group's name in the Group Name box, then click New.

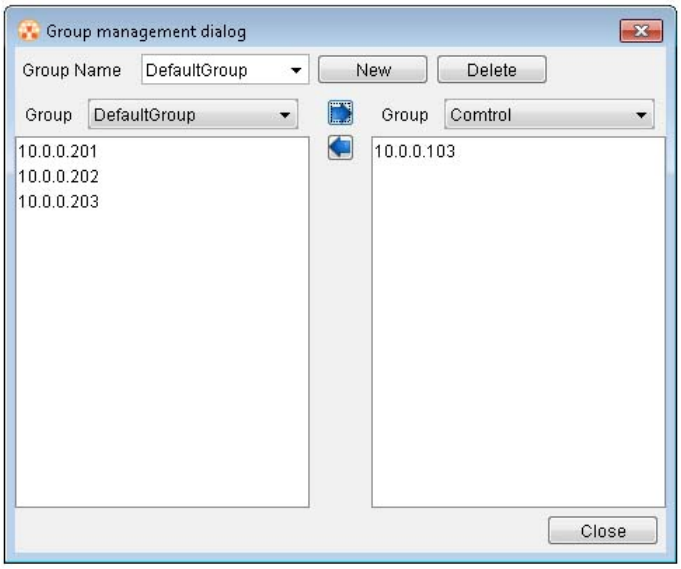
Once the new group has been created it will be added to the list of groups accessible from the Group click-down menus

Assigning a device to a group

A device can be assigned from one group to another.

In the example show below, a device is being reassigned from the DefaultGroup to the Comtrol group.



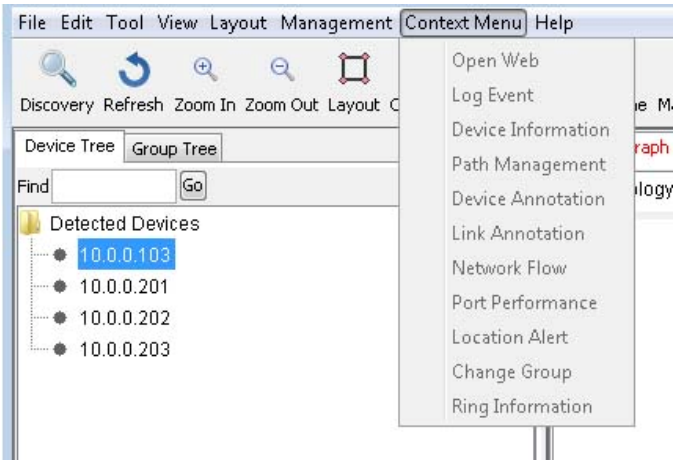


Details of the other items in the Management Option are as follows.

Option	Description
Clear Log	Clear the trap logs.
Save Log	Save system log information to an Excel file.

Edit Graph Name	Customise the Group Table name.

4.3.1.7 Context Menu

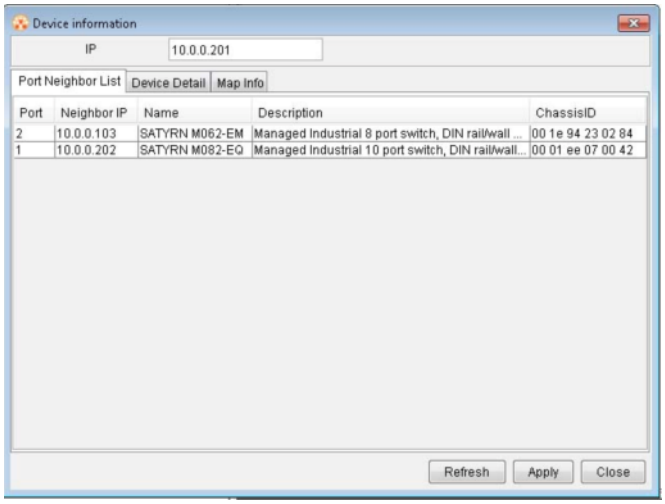


The following table describes the options available.

Option	Description
Open Web	Open Switch Web Page
Log Event	Open Switch Log Event Table.
Device Information	Show Device Information

Clicking on Device Information provides three tabs.

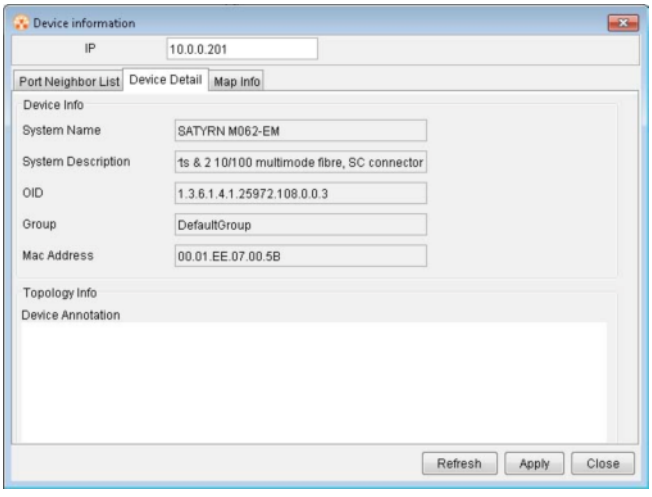
Port Neighbour Tab



The Port Neighbour List tab includes the following

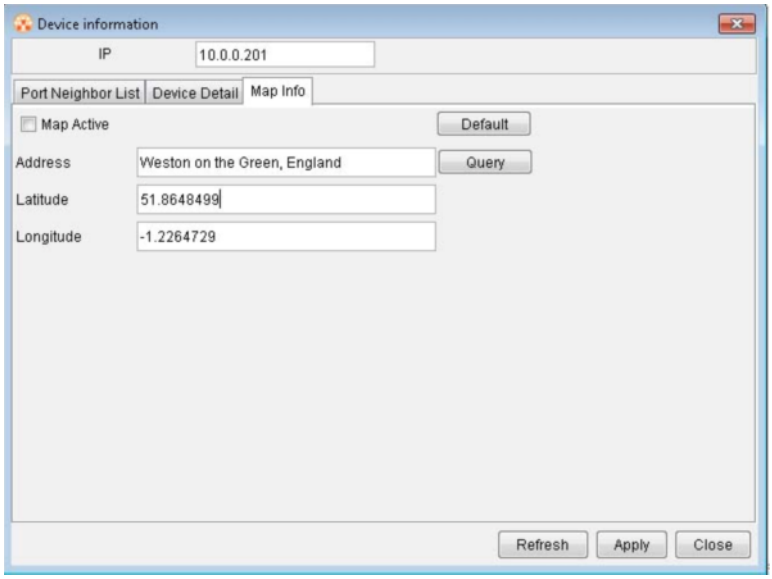
- Neighbour IP - Shows the Neighbour Device IP.
- Name – Shows the Switch model name.
- Description - Shows the device Description.
- ChassisID - Shows device MAC.

Device Details Tab



The Device Details tab identifies the details of the device and there is a section (Device Annotation) for the network administrator's notes on the specific device.

Map Info Tab



The Map Info tab utilises Google's mapping facility to show the physical location of the device on Google Maps.

Enter the physical address on the Map Info page and Satyrn Topology will first calculate the GPS coordinates and then show the device location on Google Maps. To utilise this feature, the Map Active box must be checked and there must be an active connection to the Internet.

Default : no address information

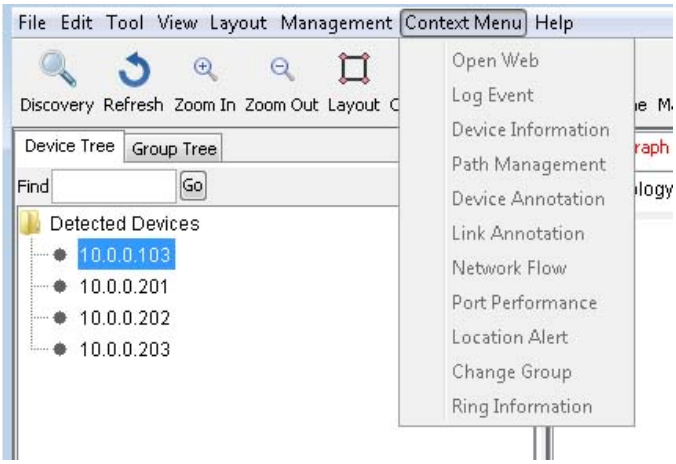
Address : Enter the physical address of the device location.

Query : auto scan the address coordinates.

Latitude : enter Latitude

Longitude : enter Longitude

Other information available from the Context Menu includes



The following table describes the options available.

Option	Description
Path Management	Information concerning the other devices to which the device is connected.
Device Annotation	The network administrator's notes on the specific device.
Network Flow	Displays information on the flow of network traffic through the port. A graphical display of the flow is shown.
Port Performance	Select the port for performance monitoring. Unicast, multicast, and broadcast packets can all be monitored. A graphical display of the performance is shown.
Location alert	Enable or disable location alerts. The selected device is highlighted on the Topology View and the power LEDs will flash on the selected device.
Change Group	Change the group to which the specified device belongs.
Ring Information	Provides information on ports and ring configurations.

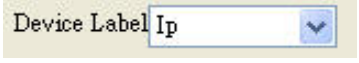
4.3.1.8 Help

Select Help > About to show the version of the software.

4.3.2 Function Bar

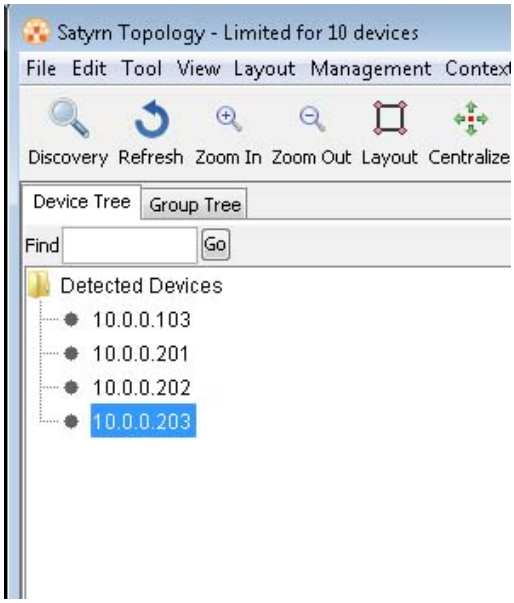
The Function Bar has the following Icons.

Icon	Description
	Launches the Discovery function.
	Refresh the host.

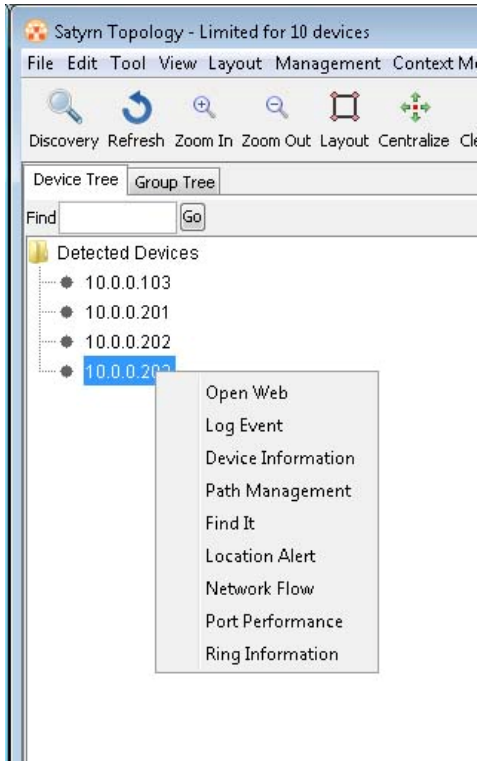
	Zoom in on the network view.
	Zoom out of the network view.
	Produce an automatic layout of the network topology.
	Centralizes the network
	Clear the Topology Area
	Edit a Group name.
	Move all selected switches simultaneously.
	Select a single switch to move.
	When the Topology Area is in editing mode, both switches and links can be added or removed.
	Find a specific host in the network.
	Display information on the device specified by its IP address.

4.3.3 Device Tree

After running the Discovery command, Satyrn Topology will provide a list of all the discovered devices on the Device Tree.



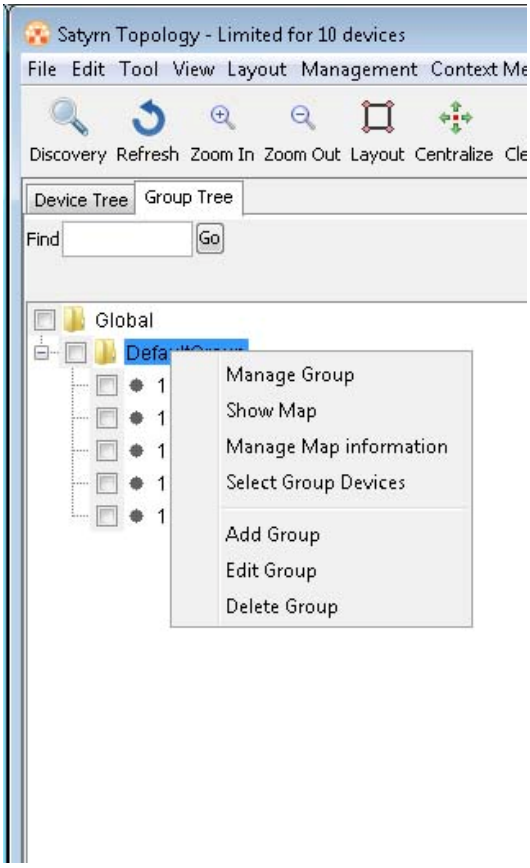
You can select a device by its IP address and right-click on it to display detailed information about the device. This information available follows the format of the previous section



The following table describes the options available.

Task	Description
Open Web	Open Switch Web Page
Log Event	Open Switch Log Event Table.
Device Information	Shows Device Information including details of the neighbouring switches, Device Detail and any annotations made by the network administrator.
Path management	Displays information concerning connected devices.
Find It	Search for a device.
Location Alert	Enable or disable a location alert. When enabled the power lights on the selected device will flash.
Port Performance	Select which port to monitor for unicast, multicast, and broadcast packets and will display the ports performance.
Ring Information	Displays information concerning ring, port, and ring master status.

4.3.4 Group Tree



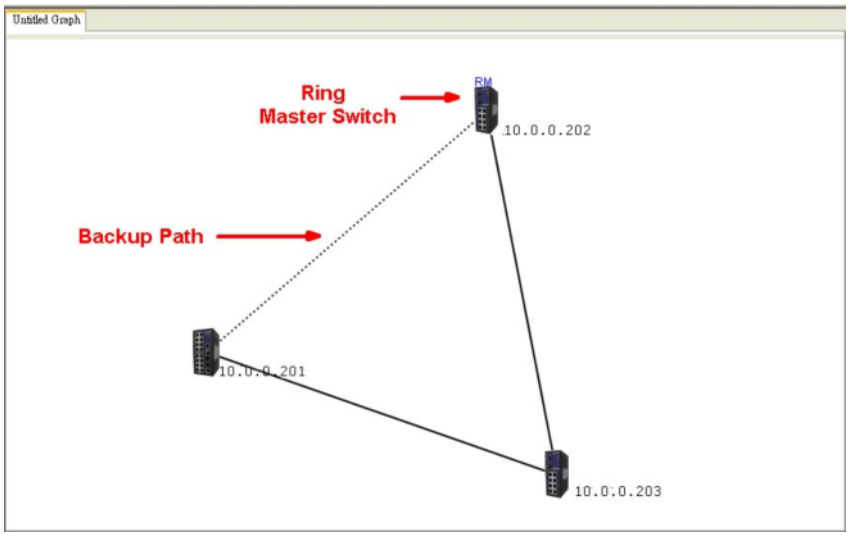
The following table describes the options available.

Option	Description
Manage Group	Select which group to manage.
Show Map	Show device in Google Maps.
Generate Average LatLon	Calculate the centre coordinates of all devices.
Add Group	Add a new group.
Edit Group	Edit group information.
Delete Group	Remove an existing group.

4.3.5 Topology Area

4.3.5.1 Display Network Topology

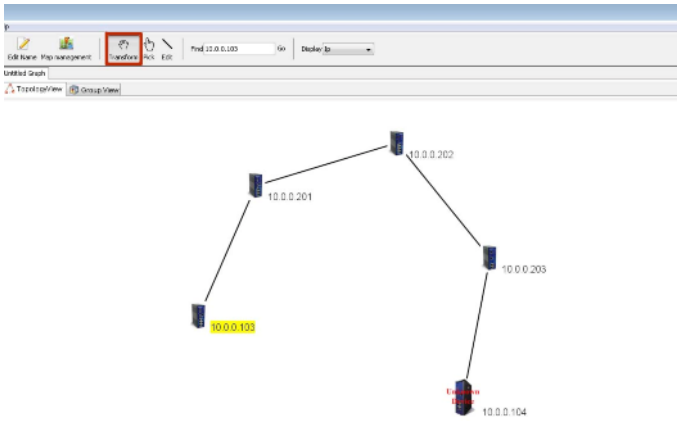
When the Discovery command is utilised, Satyrn Topology will automatically display the network topology in the Topology Area.



Note: When the SNMP Read Community is set to "public", Satyrn Topology can locate the device. It can also show the linked connections through LLDP packets from the device.

4.3.5.2 Transform

The Transform command allows you to move all the devices currently displayed in the Topology Area. The whole network can be moved by clicking and dragging with the mouse.



4.3.5.3 Pick

The Pick command allows you to move a specific switch. The selected switch can be moved by clicking and dragging with the mouse.

Right clicking on a switch in the Topology area displays the switch detail menu.

The following table describes the options available. This information follows the format of the previous sections.

Option	Description
Open Web	Open Switch Web Page
Log Event	Open Switch Log Event Table.
Device Information	Show Device Information
Path Management	Displays information about connected devices.
Device Annotation	The network administrator's notes concerning the specific device.
Network Flow	Displays the network traffic over the selected port.
Enable Location alert	Enable or disable a location alert.
Change Group	Change the group to which a specific device belongs.

Right clicking on a link in the Topology area will show the link properties.

The following table describes the options available. This information available follows the format of the previous sections.

Option	Description
Path Management	Displays information about the connected devices.
Link Annotation	The network administrator's notes concerning the selected link.

4.3.5.4 Group View

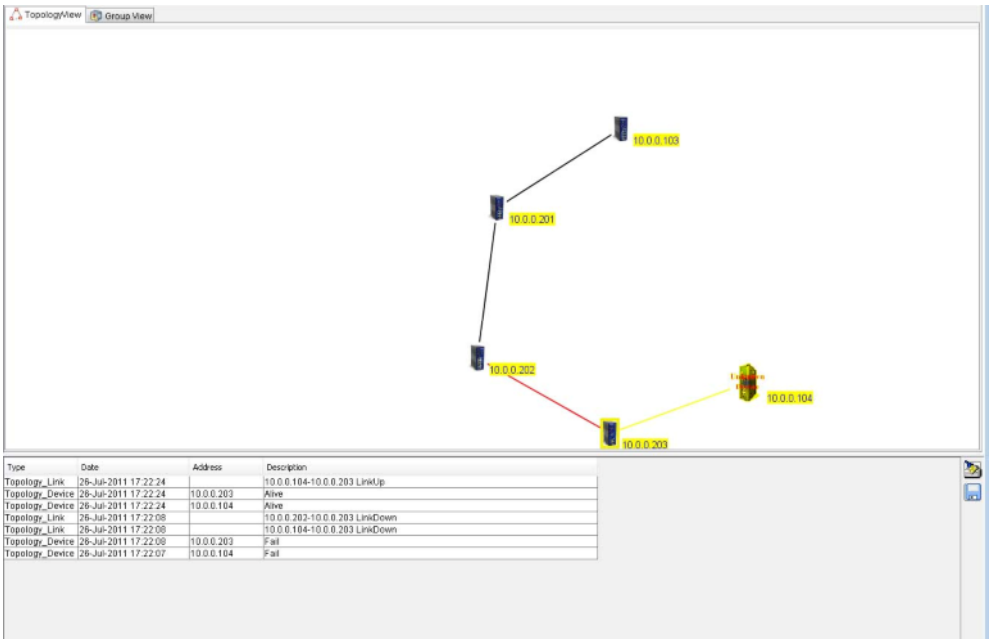
Clicking on the Group View tab will show the current group switches on Google maps.

The following table describes the options available on the Function Bar

Option	Description
Print Map	Print this map.
Save Map	Save this map to JPEG or GIF file.
Map Mode	Standard Mode selected • Tooltip - When this box is checked, moving the mouse over the device will display the IP address information. • Label - When this box is checked, the location name and IP address will be directly displayed on the map. Control Mode selected • FetchMap - Refreshes the Map page. • DefaultMap - The Map page will return to the default location. • UpLevel - Return to the previous group. • Zoom in - Zoom the map in • Zoom out - Zoom the map out • Map type - Select various map types within Google Maps

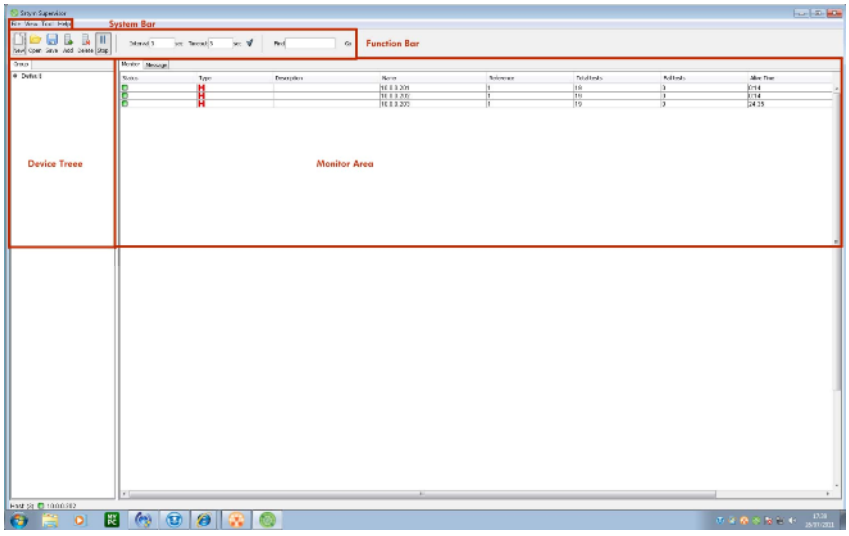
4.3.6 System Log Area

In the System Log window, current and historical information concerning port status, power status, and topology changes is displayed. These log records can be saved to Excel files, either on demand or automatically.



5 Satyrn Supervisor

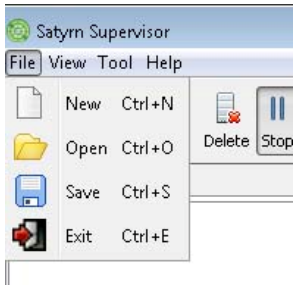
Satyrn Supervisor is a software utility that can automatically 'ping' and check the health status of connections among all IP-based devices in a network as long as they support SNMP v1/v2 and LLDP and can be 'pinged' from the PC with Satyrn Supervisor loaded. With Satyrn Supervisor you can control devices by group or IP range. Satyrn Supervisor is compatible with a broad range of devices and can monitor devices from various manufacturers across the network.



5.1 System ToolBar

5.1.1 File

Select File to show the File menu.

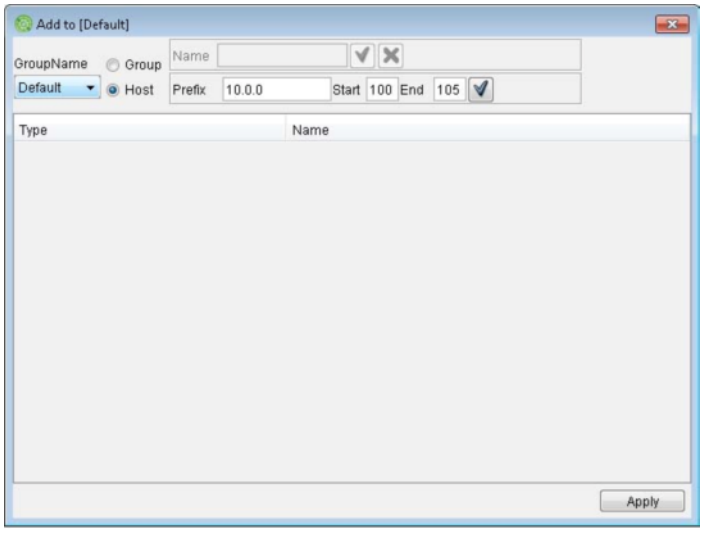


The following table describes the options available.

Option	Hotkey	Description
New	Ctrl + N	Starts new Supervisor session.
Open	Ctrl + O	Loads a previously saved configuration.
Save	Ctrl + S	Saves the current configuration as a *.mnt file.
Exit	Ctrl + E	Exit Satyrn Supervisor utility.

5.1.1.1 New (Ctrl + N)

Clicking on 'New' brings up the following dialogue box.



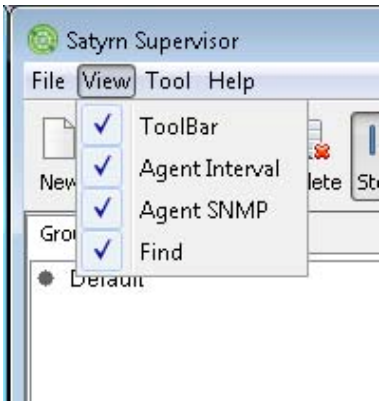
You can select a group to add to the Supervisor session by clicking the radio button next to 'Group' and adding the name to the dialogue box.

Note:- You will need to create new groups in Satyrn Supervisor, the groups created in Satyrn Topology do not apply.

Alternatively you can select a range of IP addresses by putting the part of the IP address (without the final .) into the dialogue box and then adding the appropriate range into the following boxes. Clicking '✓' will add the IP addresses to the lower table and clicking 'Apply' will add the range to the Monitor Area. Monitoring will begin based on the parameters set in the Function Bar or in Tool > Sys Config in the System Bar.

5.1.2 View

This function allows you to Show/Hide the various system bar options.



The following table describes the options available.

Option	Description
ToolBar	Show / Hide ToolBar
Agent Interval	Show / Hide Agent Interval
Agent SNMP	Show / Hide Agent SNMP
Find	Show / Hide Find

5.1.3 Help-About

This displays information about the Satyrn Supervisor version.

5.1.4 Function ToolBar

The following table describes the options available.

Label	Hotkey	Description
	Ctrl + N	Stat new Satyrn Supervisor session.
	Ctrl + O	Load a previously saved configuration.
	Ctrl + S	Save the current configuration as a *.mnt file.
	N/A	Add further hosts to be monitored.
	N/A	Remove hosts from monitoring.
	N/A	Start or stop a monitor function.
Interval	N/A	Set interval for monitoring devices.
Timeout	N/A	The maximum period of time Satyrn Supervisor will attempt to connect to the devices it is monitoring. If the time is exceeded a warning will be issued identifying a possible link or device failure.
Community	N/A	SNMP Community String
Ver	N/A	SNMP Agent Version
Find	N/A	Locate a designated device

5.1.4.1 New (Ctrl + N)

This will start a new monitoring session following the procedure in the previous sections.

5.1.4.2 Add

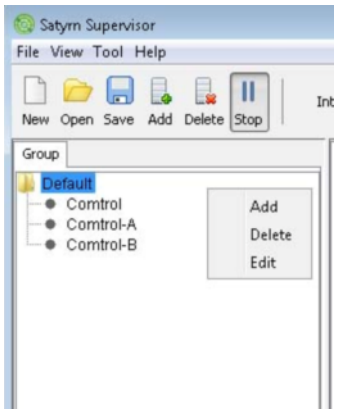
Further devices can be added to the existing monitoring exercise. Clicking here calls up the same dialogue box to 'New'.

5.1.4.3 Delete

Clicking this will remove the current hosts from the monitoring.

5.2 Devices Tree

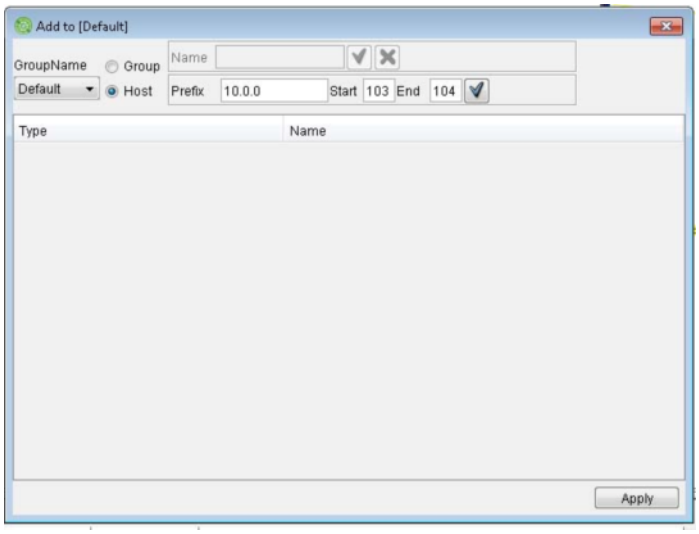
This section shows the Satyrn Supervisor device group tree. Right click on the group to call up the sub menu.



5.2.1 Add

This is used to create a new Host Monitor. Clicking Add opens up the following screen

To add Host monitoring click on 'Host'.

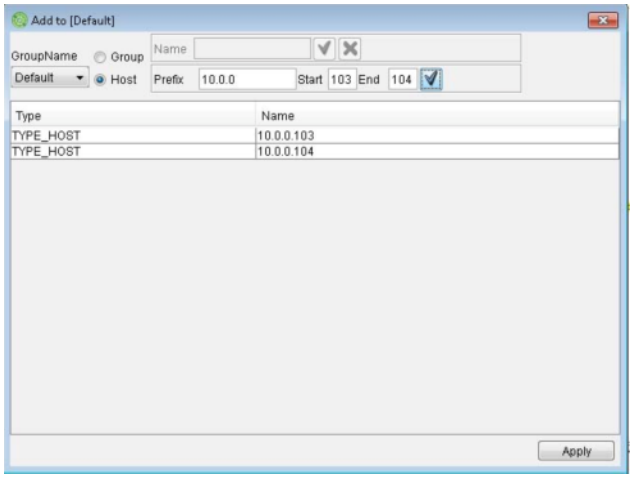


The following table describes the options available for the host.

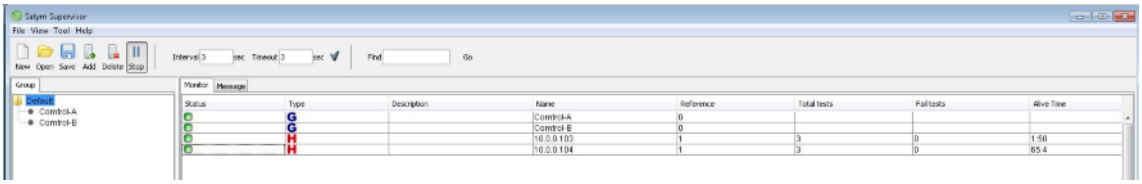
Option	Description

Host	Add a single device
Prefix	Insert the IP Prefix
Start	Insert the IP Range start value
End	Insert the IP Range end value
	Applies the values

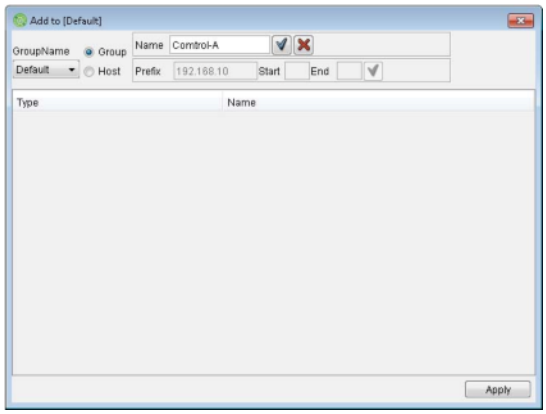
Adding the appropriate values and clicking apply adds values to the lower part of the table.



Monitoring should start immediately, if not click on Start in the Function Tool Bar to start monitoring.



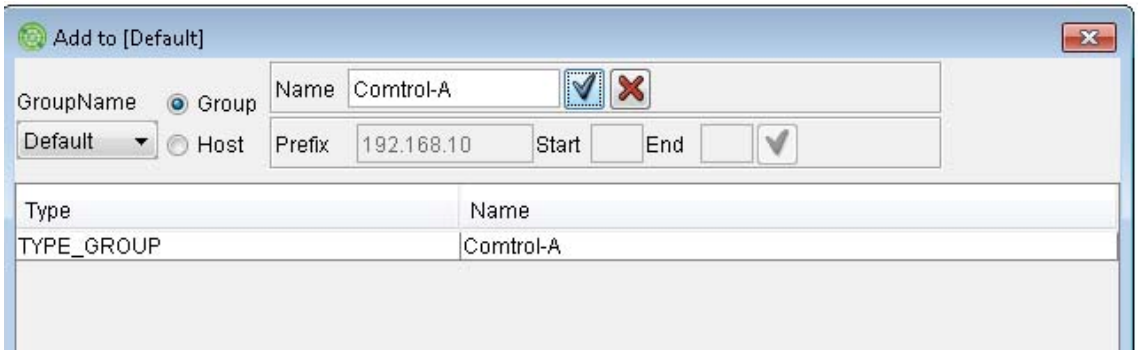
To add Group monitoring click on 'Group'.



The following table describes the options available for the host.

Option	Description
Group	Add a group to the monitoring
	Applies the values

Adding the appropriate values and clicking apply adds values to the lower part of the table.



Monitoring should start immediately, if not click on Start in the Function Tool Bar to start monitoring.

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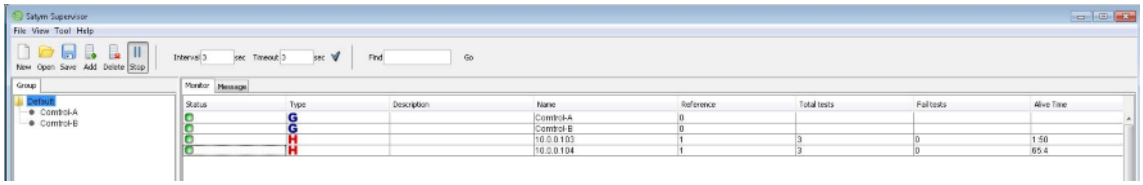


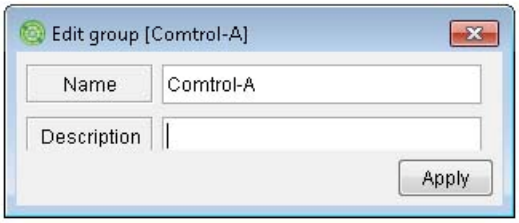
5.2.2 Delete

To delete a host monitor job right click on the job and click 'Delete'

5.2.3 Edit

To edit the group information right click on the group and click 'Edit'.

The following screen will appear.

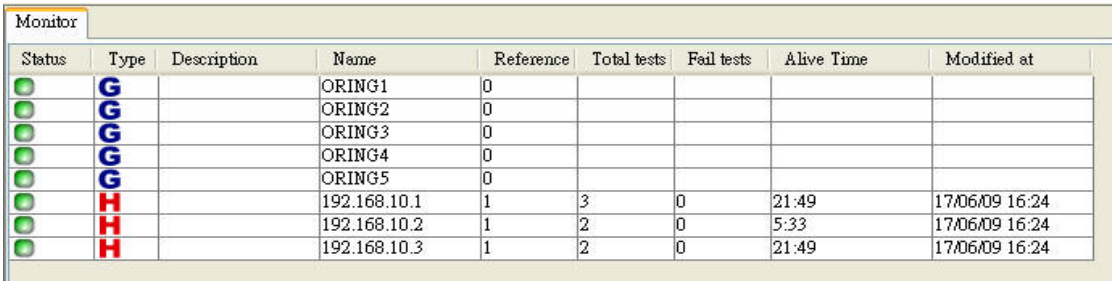


The following table describes the options available for the host.

Option	Description
Name	Redefine the group name
Description	Add a description of the group

5.3 Monitor Window

The results of the monitoring exercise are displayed in the monitoring window and the network administrator can obtain up-to-date information about the monitored devices.


Monitor
Status Type Description Name Reference Total tests Fail tests Alive Time Modified at
G ORING1 0
G ORING2 0
G ORING3 0
G ORING4 0
G ORING5 0
H 192.168.10.1 1 3 0 21:49 17/06/09 16:24
H 192.168.10.2 1 2 0 5:33 17/06/09 16:24
H 192.168.10.3 1 2 0 21:49 17/06/09 16:24